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ANNUAL REPORT
—OF THE—
COMMISSIONERS
—OF—
WATER & WORKS,
—IN THE—
CITY OF ERIE,
—TO THE—
MAYOR AND COUNCILS,
—FOR THE—
YEAR ENDING DECEMBER 31, 1893.

ERIE, PA.:
DISPATCH PUBLISHING COMPANY, LIMITED.
1894.



~~Water~~ Erie, Pa. Water bureau.

ANNUAL REPORT

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—OF THE—

COMMISSIONERS

—OF—

WATER & WORKS.

Compliments of

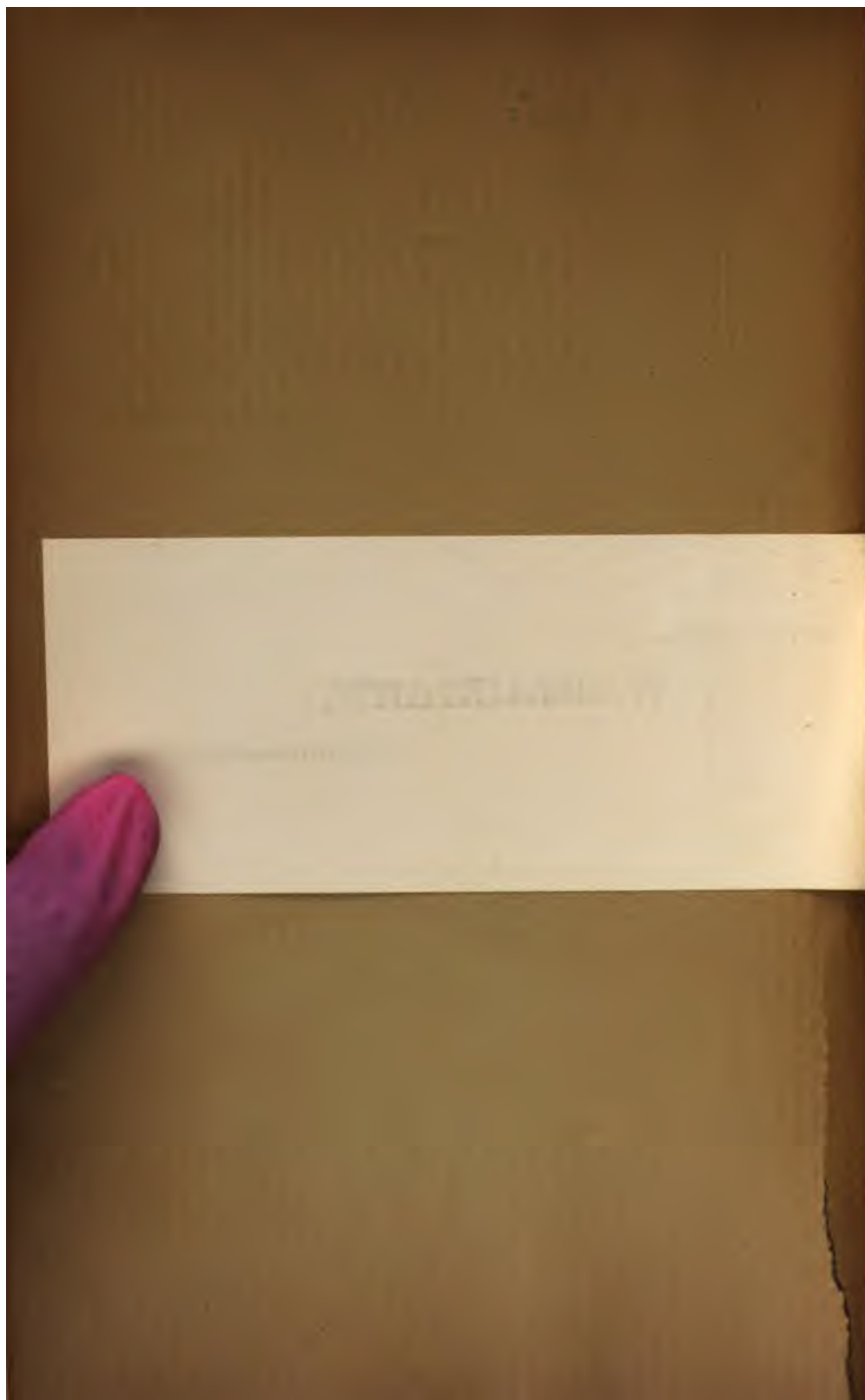
T. W. SHACKLETT,


Commissioner

—FOR THE—

YEAR ENDING DECEMBER 31, 1893.

ERIE, PA.:
DISPATCH PUBLISHING COMPANY, LIMITED.
1894.



 Erie, Pa. Water bureau.

ANNUAL REPORT

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—OF THE—

COMMISSIONERS

—OF—

WATER & WORKS,

—IN THE—

CITY OF ERIE,

—TO THE—

MAYOR AND COUNCILS,

—FOR THE—

YEAR ENDING DECEMBER 31, 1893.

— — — — —

ERIE, PA.:

DISPATCH PUBLISHING COMPANY, LIMITED.

1894.

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COMMISSIONERS OF WATER WORKS.

The Commissioners of Water Works in the City of Erie are appointed by the Court of Common Pleas of Erie County, Pa., for a term of three years, one member being named annually, in May.

SERVED IN
THE
YEAR

COMMISSIONERS FROM ORGANIZATION TO DECEMBER 31, 1893.

| | | | |
|------|-------------------|-------------------|--------------------|
| 1867 | *Wm. L. Scott, | Henry Rawle, | Wm. W. Reed, |
| 1868 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1869 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1870 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1871 | *†John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1872 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1873 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1874 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1875 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1876 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1877 | M. Liebel, | John Gensheimer, | Wm. W. Reed, |
| 1878 | M. Liebel, | *J. M. Bryant, | Wm. W. Reed, |
| 1879 | M. Liebel, | *J. M. Bryant, | *G. W. F. Sherwin, |
| 1880 | M. Liebel, | *J. M. Bryant, | *G. W. F. Sherwin, |
| 1881 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1882 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1883 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1884 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1885 | M. Liebel, | Benjamin Whitman, | George W. Starr, |
| 1886 | C. Kessler, | Benjamin Whitman, | George W. Starr, |
| 1887 | C. Kessler, | C. J. Brown, | George W. Starr, |
| 1888 | C. Kessler, | C. J. Brown, | George W. Starr, |
| 1889 | C. Kessler, | C. J. Brown, | George W. Starr, |
| 1890 | C. Kessler, | C. J. Brown, | George W. Starr, |
| 1891 | C. Kessler, | C. J. Brown, | Wm. Hardwick, |
| 1892 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, |
| 1893 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, |

*Mr. Selden resigned before the expiration of his second term; Mr. Barr was substituted by the other Commissioners, and afterwards appointed by the Court.

*Dead.

THE PRESENT COMMISSIONERS.

C. J. BROWN, President.

WM. HARDWICK.

T. W. SHACKLETT.

OFFICE—City Hall

OFFICE HOURS—From 8 00 A. M., to 5 00 P. M.; on Mondays to 9 00 P. M.

REGULAR MEETINGS OF THE COMMISSIONERS—Every Saturday at 3 00 P. M., and the first day of each month at 11 00 A. M., except when it occurs on Sunday, then they meet the following day.

OFFICERS AND SALARIES PAID THEM IN 1898.

| | |
|--|-----------|
| Commissioners—C. J. Brown..... | \$ 925 00 |
| Wm. Hardwick..... | 850 00 |
| T. W. Shacklett..... | 800 00 |
| Secretary and Treasurer—Wm. Himrod..... | 1,800 00 |
| Assistant Secretary—Geo. C. Gensheimer..... | 1,320 00 |
| Book Keepers—John Kolb..... | 960 00 |
| R. H. Bear..... | 840 00 |
| Clerk—M. L. Whitley..... | 600 00 |
| Inspectors—John D. Spafford..... | 720 00 |
| Wm. McCleery..... | 720 00 |
| P. F. Weinheimer..... | 720 00 |
| Meter Taker—Perry E. Thurber, 6 months..... | 360 00 |
| Superintendent of Street Work—R. T. Walker..... | 1,200 00 |
| Foremen of Street Work—Fred Simons, per day..... | 2 50 |
| Fred D. Gross, per day..... | 2 50 |
| Chief Engineer—F. A. Roth..... | 1,200 00 |
| Assistant Engineers—Geo. R. Miller..... | 900 00 |
| John Kelly..... | 900 00 |
| Firemen—R. W. Simons..... | 600 00 |
| Joseph Burns..... | 600 00 |
| Jacob Mullen..... | 600 00 |
| Watchman at Pumping Station—Michael Flynn..... | 600 00 |
| Keeper of Reservoir—Samuel Phister..... | 420 00 |
| Janitress—Mrs. Matilda Sager..... | 144 00 |

ANNUAL REPORT.

To the Mayor, Select and Common Councils of the City of Erie, Penn'a.:

GENTLEMEN:--We herewith present you with a detailed statement of our official acts for the year ending December 31, 1893.

The increase in receipts for water over that of the year 1892 was nearly five and one-half per cent., which was, however, a much smaller gain than that made the preceding year. Much of this, we think, is attributable to the general depression in business of all kinds. Our receipts reached the sum of one hundred eleven thousand, two hundred forty-seven and forty-three one-hundredths (\$111,247.43-100) dollars, and is the second year in our history that they have exceeded a hundred thousand dollars. We do not think they will ever be below this latter figure, and hope that they may continue to steadily increase, thus clearly showing the expansion of our growing city.

In our report last year we showed that during the month of July, 1892, we delivered in one day 8,218,875 gallons of water, which was almost the maximum guaranteed duty of our entire plant; in the corresponding month of 1893 we delivered in one day 9,775,761 gallons, which was over three quarters of a million gallons more than our guaranteed daily capacity at that time.

We now have four (4) pumping engines, with a guaranteed daily capacity of twenty-one million (21,000,000) gallons. They are as follows:

Two (2) Cornish Bull, each having a daily capacity of two million (2,000,000) gallons, and were erected in 1868 by the West Engine Company of Norristown, Penn'a. They together with the boilers and connections all ready for use, cost fifty-five thousand

(\$55,000.00) dollars. At the time these engines were purchased they were "classed with the most efficient and reliable, where heavy pumping machinery was required," and it was fully expected that they would be all the pumping engines that would be required till our city had a population of fifty thousand people.

In the report to you for the year ending December 31, 1884, the Commissioners stated that the demand for water had increased to such an extent that it was not prudent to depend on their then pumping facilities. Their report for 1885 was more urgent for a new pump of much larger capacity than those in daily use, and on July 19, 1886, they awarded a contract to the Holly Manufacturing Co., of Lockport, N. Y., for a Gaskill Horizontal Compound Pumping Engine, with a daily capacity of five million (5,000,000) gallons, against a head of 237 feet. This engine, all complete ready for use, cost twenty-four thousand, eight hundred and fifty (\$24,850.00) dollars, and was accepted by the Commissioners June 11, 1887, after having been thoroughly tested; and has been in constant use since.

We stated in our last report that we had contracted with Henry R. Worthington, of New York, for a Horizontal Compound Condensing High Duty Pumping Engine, with a daily capacity of twelve million (12,000,000) gallons, against a head of 260 feet. This engine has been put in place, but as the thirty (30) day working test required by the specifications had not been completed by the close of the year, we were unable to determine whether the engine would be accepted or not, therefore in our accounts for the year it does not appear. We engaged Mr. H. R. Barnhurst, of this city, an expert mechanical engineer, who, in conjunction with our Mr. F. A. Roth, chief engineer of the Pumping Station, represented us in the official tests of this engine. They began the tests November 29, 1893, the full report of which is herewith attached, to which we respectfully invite your careful perusal.

Allow us to add that on January 6, 1894, we accepted the engine, being satisfied that the Henry R. Worthington people had given us all that the contract called for, and on Saturday, January 13, 1894, we paid them the first installment as agreed, viz.: Twenty-three thousand, one hundred and fifty (\$23,150.00) dollars, which is one-half the contract price of the engine ready for use.

We now feel as though we were provided with pumping facilities so that it is hardly within the probabilities that any accident could happen which would place us in position so that we would be unable to furnish the city with a full supply of water.

In our report of last year we explained about the condition of the present Inlet Pipe, how that, owing to the low stage of water that prevails in Lake Erie, we are not deriving the full benefit of its size, also that as a considerable portion of it is constructed of wood, decay will soon force us to either renew or abandon it.

It was also stated that the well to the last pump and the conduit connecting it to the present inlet pipe, would be placed low enough to meet the prospective low state of water and which would, eventually, form the shore terminal of an inlet pipe that, when completed, would extend across the bay, through the peninsula and out into the open waters of Lake Erie. The work done this year in and about the Pumping Station has been done with this object in view; and now the great question is, to build a new inlet pipe. All improvements made this year in this line has demonstrated that the estimate of the cost of the proposed conduit, viz.: three hundred thousand (\$300,000.00) dollars, will construct it, in all respects, in accordance with the specifications. Assurances have been made by parties whose practical knowledge gives weight to their opinion, that the proposed plan is feasible and that the conduit with all its appurtenances can be put in place ready for use at the figures named. It would be very gratifying, indeed, to commence this work in 1894, but we will have to wait a year till enough funds can be accumulated to carry it northward as far as the north line of the water lots; and then, if no other plan to prosecute the work offers, it will be built in sections as our receipts will allow, till the conduit is completed.

At this point allow us again to call your attention to the fact that the continued depositing of the sewage of a city of a population of 50,000 people, almost within a stone's throw of the mouth of our present source of water supply, is prejudicial to good health, if not revolting to decency. We have repeatedly brought this matter to your attention in our annual reports, and in our communication to you July 26, 1893, the same was more fully set forth, urging that an intercepting sewer be built that would convey

the filth of the city beyond the limits of the harbor, which would ultimately improve the water and remove the probability of contagion from our doors.

Feeling that a more thorough system should be adopted in the care and preservation of the meters, the office of meter taker was created the 26th day of June last, and work in this line began the first of the following month. In addition to attending to meters, it is his duty to look after all the fire hydrants, also to see that persons using water for building purposes secure permits for the same.

The first six months' work in the care of meters has convinced us that we did not commence it too soon, and that it has been a profitable investment. A reading and examination of the meters are taken monthly, instead of quarterly, as was the usual custom; and whenever any marked increase or decrease in the consumption of water is discovered, the cause is immediately looked up, any defect in the meter and its surroundings are detected and promptly remedied.

We look upon the care of fire hydrants as of the utmost importance—they must be ready for instant use at all seasons of the year. A failure on the part of a fire hydrant to do its duty when called upon is to be deplored, and we trust that the time will never come when it can be recorded that one in this city was found defective.

It is our purpose to have all fire hydrants and connections for fire protection on private property sealed, so that they cannot be used without our knowledge, because these appliances are not to be used for any other purpose than to extinguish fire. When parties wish to test their fire apparatus, upon due notice given at the office and payment for the same, the meter taker will be sent to the property, remove the seals, and when the test has been made, replace the seals. In all cases of fire it is expected that the seals will be broken and the water used freely; for this there is no charge.

A word in regard to the price of water furnished by meter: For some time past we have had under consideration the propriety of asking your approval of a change in the meter rates, making one price for all, regardless of the quantity consumed. Our present rate is based on the average daily consumption in

any given quarter, which in a large number of cases causes a change in price per 1,000 gallons each quarter, besides creating a difference in cost between the large and small consumer. When this occurs with parties in the same line of business it favors the large consumer, which is not fair and equitable. Should a rate be adopted that would be an average of our present one, based on the present consumption, so that the receipts from this source would be maintained, would be gratifying, but would be objectionable to those who are receiving water to-day at the minimum rate, therefore it seems the only way to do is to make the price six (6) cents per each one thousand (1,000) gallons, even if it will reduce our receipts five thousand (\$5,000.00) dollars per annum, based on present consumption. We feel confident, however, that the manufacturing interests in our city will gladly endorse the six cent rate.

The heavy rain fall that caused "the flood" last May that did so much damage to property on each side of Mill Creek, caused sections of the banks at the Pumping Station and at the Reservoir to slide, necessitating an expenditure of money for repairs that should be classed as *extraordinary*, because each of these places had been thoroughly renewed the previous year, and for years to come would have required but a small outlay; to-day, however, "they are as good as new."

We have the honor to remain, gentlemen,

Yours respectfully,

C. J. BROWN,

WM. HARDWICK,

T. W. SHACKLETT,

Commissioners of Water Works in the City of Erie.

NOTE.—In regard to price of water by meter the following explains itself:

Meter Rates Adopted January 8, 1894.

Approved by the Mayor Jan. 18, 1894.

Six (6) cents for each one thousand (1,000) gallons by meter measurement, PROVIDED that the minimum receipts per quarter, for each meter, shall be for a

| | | | |
|---------------------------------|--------|-------------|---------|
| $\frac{3}{4}$ inch or less..... | \$3.75 | 2 inch..... | \$10.00 |
| 1 inch..... | 4.50 | 3 inch..... | 18.75 |
| 1 $\frac{1}{2}$ inch..... | 6.25 | 4 inch..... | 38.75 |

To take effect January 1, 1894.

**Monthly Receipts from all Sources During the Year Ending
December 31, 1893.**

| MONTH. | ASSESSMENT. | METER. | SPECIAL. | PLUMBING. | BUILDING. | TOTAL. |
|-------------|--------------|--------------|-----------|-------------|-----------|---------------|
| January .. | \$ 13,749 26 | \$ 4,128 04 | \$ 32 09 | \$ 194 10 | \$ 11 98 | \$ 18,115 47 |
| February .. | 4,244 48 | 266 79 | 4 78 | | 31 64 | 4,547 69 |
| March | 1,238 94 | 238 73 | 13 33 | 69 57 | 103 52 | 1,664 09 |
| April | 17,846 41 | 5,571 85 | 13 67 | 3 85 | 181 63 | 23,617 41 |
| May | 4,237 49 | 420 37 | 13 42 | 19 50 | 92 76 | 4,783 54 |
| June | 1,308 56 | 1,093 96 | 17 68 | 405 54 | 123 81 | 2,949 55 |
| July | 15,993 19 | 3,505 31 | 15 30 | 11 10 | 87 26 | 19,612 16 |
| August ... | 4,029 76 | 1,161 20 | 19 22 | 74 35 | 48 14 | 5,332 67 |
| Sept | 435 17 | | 46 67 | 221 71 | 51 23 | 754 78 |
| Oct | 17,903 69 | 2,785 00 | 7 25 | 58 60 | 56 65 | 20,811 19 |
| Nov | 5,682 86 | 3,299 46 | 8 39 | 1,232 29 | 15 01 | 10,238 01 |
| Dec | 474 42 | 559 22 | 9 51 | 227 35 | 68 33 | 1,338 83 |
| Total... | \$ 87,144 23 | \$ 23,029 93 | \$ 201 31 | \$ 2,517 96 | \$ 871 96 | \$ 113,765 39 |

**Receipts from Each Ward During the Year Ending December
31, 1893.**

| WARD. | ASSESSMENT. | METER. | SPECIAL. | PLUMBING. | BUILDING. | TOTAL. |
|-----------|--------------|--------------|-----------|-------------|-----------|---------------|
| 1st. | \$ 12,002 40 | \$ 3,004 80 | \$ 30 17 | \$ 28 85 | \$ 83 46 | \$ 15,149 68 |
| 2nd | 19,416 76 | 13,763 21 | 24 41 | 1,248 69 | 210 18 | 34,663 25 |
| 3rd | 21,370 56 | 3,705 94 | 60 30 | 797 44 | 215 17 | 26,149 41 |
| 4th | 16,667 41 | 872 32 | 47 49 | 275 71 | 168 21 | 17,431 14 |
| 5th | 8,876 57 | 1,158 87 | 21 54 | 13 04 | 79 74 | 10,149 76 |
| 6th | 8,641 50 | 524 79 | 17 40 | 37 95 | 103 36 | 9,325 00 |
| 7th | 769 03 | | | 116 28 | 11 84 | 897 15 |
| Total... | \$ 87,144 23 | \$ 23,029 93 | \$ 201 31 | \$ 2,517 96 | \$ 871 96 | \$ 113,765 39 |

**Cash Account of Secretary and Treasurer of Commissioners
of Water Works in the City of Erie, for the Year Ending
December 31, 1893.**

| Month. | Receipts. | Deposited with the Treasurer City of Erie. | Balance in Office at Close of Business Each Month. |
|------------------------|---------------|--|--|
| Balance from 1892..... | \$ 104 42 | | |
| January..... | 17,115 47 | \$ 17,206 80 | \$ 1,091 33 |
| February..... | 4,547 99 | 5,472 40 | 82 41 |
| March..... | 1,060 68 | 1,050 75 | 9 93 |
| April..... | 21,074 07 | 21,074 07 | 21,074 07 |
| May..... | 4,753 54 | 7,380 00 | 26 46 |
| June..... | 2,486 55 | 2,054 13 | 432 42 |
| July..... | 18,328 08 | 18,328 08 | 1,360 23 |
| August..... | 6,577 47 | 6,577 47 | 70 76 |
| September..... | 724 32 | 724 32 | 63 44 |
| October..... | 10,010 12 | 10,010 12 | 985 04 |
| November..... | 11,181 38 | 11,181 38 | 42 57 |
| December..... | 1,381 40 | 1,381 40 | |
| Total..... | \$ 113,899 81 | \$ 113,899 81 | |

**Statement of Account With Treasurer of the City of Erie, Pa.,
for the Year Ending December 31, 1893.**

| Month. | Received from Secretary and Treasurer of Commissioners of Water Works. | Paid on Warrants of Commissioners of Water Works. | Monthly Balance. |
|------------------------|--|---|------------------|
| Balance from 1892..... | \$ 286 56 | | |
| January..... | 17,206 80 | 6,453 27 | \$ 11,040 00 |
| February..... | 5,472 40 | 3,044 62 | 12,567 93 |
| March..... | 1,060 68 | 8,050 75 | 5,286 86 |
| April..... | 21,074 07 | 13,285 07 | 13,075 86 |
| May..... | 7,380 00 | 5,700 00 | 14,050 77 |
| June..... | 2,054 13 | 7,380 28 | 10,233 62 |
| July..... | 18,328 08 | 6,770 28 | 21,702 32 |
| August..... | 6,577 47 | 9,393 85 | 18,075 04 |
| September..... | 724 32 | 11,425 00 | 8,275 17 |
| October..... | 10,010 12 | 4,744 10 | 23,450 19 |
| November..... | 11,181 38 | 7,340 56 | 27,291 01 |
| December..... | 1,381 40 | 7,376 24 | 21,296 17 |
| Total..... | \$ 114,156 37 | \$ 92,860 20 | |

Amount of Water Rents Collected Each Year, with the Increase and Decrease Since the Commencement of the Works.

| | A'MT REC'D. | INCREASE. | DECREASE. |
|--|-----------------|-------------|-------------|
| From Jan. 1, 1869, to Dec. 31, 1869..... | \$ 4,264 47 | | |
| " " 1870, to " 1870..... | 9,237 30 | \$ 4,972 83 | |
| " " 1871, to " 1871..... | 18,138 08 | 8,900 78 | |
| " " 1872, to " 1872..... | 21,652 68 | 3,514 60 | |
| " " 1873, to " 1873..... | 25,560 40 | 3,907 72 | |
| " " 1874, to " 1874..... | 27,938 90 | 2,378 50 | |
| " " 1875, to " 1875..... | 29,639 38 | 1,700 48 | |
| " " 1876, to " 1876..... | 31,048 76 | 1,409 38 | |
| " " 1877, to " 1877..... | 32,276 57 | 1,227 81 | |
| " " 1878, to " 1878..... | 29,636 01 | | \$ 2,640 56 |
| " " 1879, to " 1879..... | 33,343 20 | 3,707 19 | |
| " " 1880, to " 1880..... | 37,385 00 | 4,041 80 | |
| " " 1881, to " 1881..... | 40,385 87 | 3,000 87 | |
| " " 1882, to " 1882..... | 43,818 73 | 3,432 86 | |
| " " 1883, to " 1883..... | 48,269 89 | 4,451 16 | |
| " " 1884, to " 1884..... | 51,852 78 | 3,582 89 | |
| " " 1885, to " 1885..... | 53,550 35 | 1,697 57 | |
| " " 1886, to " 1886..... | 58,725 00 | 5,174 65 | |
| " " 1887, to " 1887..... | 67,121 92 | 8,396 92 | |
| " " 1888, to " 1888..... | 73,197 03 | 6,075 11 | |
| " " 1889, to " 1889..... | 81,110 68 | 7,913 65 | |
| " " 1890, to " 1890..... | 87,279 96 | 6,169 28 | |
| " " 1891, to " 1891..... | 93,891 55 | 6,611 59 | |
| " " 1892, to " 1892..... | 105,527 03 | 11,635 48 | |
| " " 1893, to " 1893..... | 111,247 43 | 5,720 40 | |
| Total..... | \$ 1,216,098 97 | | |

DISBURSEMENTS.

| Leger Folio. | Department. | Account. | For the Year 1893. | | | From beginning of Works to Dec. 31st, 1893. |
|--------------|---------------|-------------------------------------|--------------------|-----------|-----------|---|
| | | | Labor. | Material. | Total. | |
| 1 | Construction. | Ad., Books, Sta. and Prtg. | \$ 1 87 | \$ 65 52 | \$ 67 39 | \$ 147 02 |
| 2 | | Buildings and Grounds. | 339 44 | 1,068 84 | 1,408 28 | 86,047 49 |
| 4 | | Boilers. | 0 | | | 3,304 13 |
| 7 | | Civil Engineering. | | | | 8,554 80 |
| 12 | | Connections. | 2,800 93 | 2,189 29 | 5,050 22 | 97,799 81 |
| 26 | | Engines and Boilers. | | | | 93,386 61 |
| 27 | | Engines. | | | | 15 05 |
| 29 | | Engine No. 4. | 286 18 | 350 81 | 636 99 | 647 48 |
| 720 | | Engine House No. 3. | 7,284 97 | 11,548 80 | 18,833 77 | 20,355 37 |
| 32 | | Engine Room Fur. and Fix. | | | | 1,356 08 |
| 34 | | Expense. | 7 35 | 29 68 | 37 03 | 50 02 |
| 36 | | Electric Light Plant. | | | | 722 98 |
| 38 | | Fire Hydrants. | 173 61 | 898 79 | 1,072 40 | 22,580 51 |
| 45 | | Fuel. | 52 | 11 12 | 11 44 | 95 67 |
| 47 | | Gas Well. | | | | 8,148 59 |
| 50 | | Horse, Wagon and Cartage. | 62 75 | 407 76 | 470 51 | 3,419 57 |
| 53 | | Inlet Pipe No. 1. | | | | 49,474 89 |
| 54 | | Inlet Pipe No. 2. | 3,609 02 | 4,141 55 | 7,840 57 | 7,971 18 |
| 55 | | Interest and Discount. | | | | 99,420 95 |
| 56 | | Light—Lamps, Oil, Wicks, &c. | 56 | 12 46 | 12 82 | 81 94 |
| 59 | | Lowering Mains. | 24 66 | | 24 66 | 584 31 |
| 64 | | Mains and Branches. | 5,900 80 | 9,959 46 | 15,860 26 | 478,897 01 |
| 85 | | Main, 30-inch. | 487 99 | 774 94 | 1,262 93 | 75,955 61 |
| 89 | | Meters. | 604 61 | 1,835 13 | 2,439 74 | 14,768 08 |
| 100 | | Office Furniture and Fixtures. | | | | 821 05 |
| 102 | | Oil and Tallow. | 02 | 60 | 62 | 2 86 |
| 104 | | Paving and Street Repairs. | | | | 4 07 |
| 109 | | Park Fountains. | | | | 3,244 68 |
| 110 | | Railroad Switch and Scales. | | | | 2,918 92 |
| 111 | | Reservoir. | | | | 123,150 83 |
| 114 | | Stop Valves. | 119 31 | 920 82 | 1,040 13 | 28,162 95 |
| 117 | | Superintendent's Stores. | | | | 217 05 |
| 119 | | Superintendent's Expenses. | 38 | 13 40 | 18 78 | 52 82 |
| 121 | | Shop Rent. | 2 93 | 102 71 | 105 64 | 305 88 |
| 125 | | Tools and Repairs. | 103 48 | 142 50 | 245 98 | 3,745 39 |
| 130 | | Telephone and Telegraph. | 09 | 3 30 | 3 39 | 9 44 |
| 136 | Maintenance. | Advtg., Books, Sta. and Prtg. | 1 52 | 53 24 | 54 76 | 104 91 |
| 139 | | Buildings and Grounds. | 1,720 76 | 168 02 | 1,888 78 | 3,013 56 |
| 142 | | Boilers. | | | | 18,365 28 |
| 143 | | Boiler No. 1. | 19 13 | 157 24 | 176 37 | 176 37 |
| 144 | | Boiler No. 2. | 19 30 | 163 53 | 182 83 | 182 83 |
| 145 | | Boiler No. 3. | 19 15 | 158 18 | 177 33 | 177 33 |
| 146 | | Boiler No. 4. | 18 74 | 144 10 | 162 84 | 162 84 |
| 147 | | Boiler No. 5. | 25 09 | 35 82 | 60 91 | 60 91 |
| 148 | | Boiler No. 6. | 37 46 | 47 40 | 84 86 | 84 86 |
| 149 | | Boiler House. | 04 | 1 25 | 1 29 | 1 29 |
| 154 | | Connections. | 1,226 15 | 298 67 | 1,524 82 | 4,412 75 |
| 174 | | Engines. | | | | 13,402 04 |
| 176 | | Engine No. 1. | 92 | 32 37 | 33 29 | 33 29 |
| 178 | | Engine No. 2. | 1 80 | 62 96 | 64 76 | 64 76 |
| 181 | | Engine No. 3. | 2 54 | 88 91 | 91 45 | 91 45 |
| 197 | | Engine House No. 1. | 59 02 | 21 49 | 80 51 | 80 51 |
| 200 | | Engine House No. 2. | 111 06 | 32 92 | 143 98 | 143 98 |
| 203 | | Engine House No. 3. | 34 39 | 43 06 | 77 45 | 77 45 |
| 205 | | Engineer's Stores. | | | | 1 05 |
| 208 | | Engine Room Fur. and Fix. | | | | 28 53 |
| 210 | | Expense. | 6 66 | 7 13 | 13 79 | 25 07 |
| 212 | | Electric Light Plant. | 50 | 17 60 | 18 10 | 45 96 |
| 215 | | Fire Hydrants. | 194 86 | 24 86 | 219 71 | 729 27 |
| 225 | | Fuel. | 32 | 11 12 | 11 44 | 49 82 |

DISBURSEMENTS—Continued.

| Leger Folio. | Department. | Account. | For the Year 1893. | | | From be- ginning of Works to Dec. 31st, 1893. |
|--------------|-------------|----------------------------------|--------------------|--------------|--------------|--|
| | | | Labor. | Material | Total. | |
| 230 | | Horse, Wagon and Cartage..... | \$ 62 76 | \$ 407 69 | \$ 470 45 | \$ 3,422 78 |
| 233 | | Inlet Pipe No. 1..... | 2 09 | | 2 09 | 111 80 |
| 239 | | Light—Lamps, Oil, Wicks, &c.... | 36 | 13 75 | 13 11 | 32 96 |
| 246 | | Mains and Branches..... | 950 63 | 38 89 | 989 52 | 16,559 38 |
| 258 | | Main, 30-Inch..... | 600 82 | 268 41 | 869 23 | 899 33 |
| 261 | | Meters..... | 89 33 | 181 14 | 270 47 | 3,928 81 |
| 275 | | Office Furniture and Fixtures... | 47 | 16 42 | 16 89 | 22 28 |
| 277 | | Oil and Tallow..... | | | | 2 24 |
| 279 | | Paving and Street Repairs..... | | | | 449 94 |
| 285 | | Railroad Switch and Scales..... | 109 29 | 35 07 | 144 36 | 375 68 |
| 288 | | Reservoir..... | 2,505 51 | 392 05 | 2,897 56 | 21,315 45 |
| 315 | | Stand Pipe..... | 02 | 75 | 77 | 77 |
| 319 | | Stop Valves..... | 207 71 | 146 10 | 353 81 | 3,755 11 |
| 323 | | Superintendent's Stores..... | | | | 396 52 |
| 325 | | Superintendent's Expenses..... | 38 | 13 41 | 13 79 | 52 56 |
| 327 | | Shop Rent..... | 2 93 | 102 71 | 105 64 | 305 89 |
| 332 | | Tools and Repairs..... | 114 31 | 148 47 | 262 78 | 4,006 11 |
| 339 | | Waste and Packing..... | | | | 22 18 |
| 351 | Operating. | Advtg., Books, Sta. and Prtg.... | 5 57 | 194 98 | 200 55 | 259 78 |
| 353 | | Buildings and Grounds..... | 617 14 | | 617 14 | 1,246 43 |
| 357 | | Engineers and Firemen..... | 6,312 27 | | 6,312 27 | 106,753 42 |
| 370 | | Engineers' Stores..... | 09 | 3 20 | 3 29 | 2,348 57 |
| 371 | | Inspectors..... | 1,978 72 | | 1,978 72 | 1,978 72 |
| 374 | | Expense..... | 121 15 | 108 00 | 229 05 | 358 84 |
| 376 | | Electric Light Plant..... | 54 | 18 79 | 19 38 | 29 35 |
| 380 | | Fire Hydrants..... | | | | 20 |
| 382 | | Fuel..... | 167 98 | 5,880 69 | 6,048 67 | 145,294 00 |
| 410 | | Insurance..... | 4 00 | 139 95 | 143 95 | 990 20 |
| 415 | | Light—Lamps, Oil, Wicks &c.... | 40 | 14 13 | 14 58 | 222 08 |
| 430 | | Meters..... | 399 28 | 3 76 | 403 04 | 439 10 |
| 436 | | Oil and Tallow..... | 14 56 | 509 66 | 524 22 | 9,744 41 |
| 445 | | Reservoir..... | 432 37 | 12 93 | 445 30 | 885 80 |
| 449 | | Rent of Office..... | 06 | 2 11 | 2 17 | 357 07 |
| 458 | | Tools and Repairs..... | 2 22 | 77 88 | 80 10 | 135 80 |
| 463 | | Taxes—State, County and School | | | | 1,100 83 |
| 465 | | Telephone and Telegraph..... | 4 56 | 159 68 | 164 24 | 349 97 |
| 470 | | Waste and Packing..... | 10 82 | 378 87 | 389 69 | 4,877 48 |
| 475 | | Water Rents Returned..... | 3 94 | 138 06 | 142 00 | 217 23 |
| 502 | Accounting. | Advtg., Books, Sta. and Prtg.... | 9 15 | 320 22 | 329 37 | 8,068 69 |
| 518 | | Expense..... | 89 | 81 29 | 32 18 | 14,732 07 |
| 522 | | Horse, Wagon and Cartage..... | | | | 17 30 |
| 531 | | Postage..... | 8 00 | 280 32 | 288 32 | 4,833 91 |
| 551 | | Salaries..... | 6,376 58 | | 6,376 58 | 154,699 58 |
| 626 | Sundries. | City of Erie Sinking Fund Com. | | | | 105,500 00 |
| 628 | | City of Erie..... | | | | 6 41 |
| 703 | Legal. | Court Costs..... | 37 20 | | 37 20 | 478 40 |
| 708 | | Counsel Fees..... | 100 00 | | 100 00 | 2,790 38 |
| 713 | | Expense..... | | | | 55 25 |
| | | Totals..... | \$ 46,774 48 | \$ 46,085 72 | \$ 92,860 20 | \$1,903,277 70 |

*These accounts not kept previous to 1891.

†These accounts not kept previous to 1892.

‡These accounts not kept previous to 1893.

RECAPITULATION.

| Department. | For the Year 1893. | | | | From beginning of Works to Dec. 31st, 1893. |
|--------------------|--------------------|---------------------|---------------------|---------------------|---|
| | Pro Rata. | Labor. | Material. | Total. | |
| Construction..... | 6084259918 | \$ 22,021 07 | \$ 34,477 48 | \$ 56,498 55 | \$1,237,030 47 |
| Maintenance..... | 1236238991 | 8,146 02 | 3,333 72 | 11,479 74 | 98,075 94 |
| Operating..... | 1908057488 | 10,075 51 | 7,643 69 | 17,718 20 | 277,019 30 |
| Accounting..... | 0756889708 | 6,804 62 | 631 83 | 7,026 45 | 182,341 56 |
| Sundries..... | | | | | 106,566 41 |
| Legal..... | 0014774898 | 137 20 | | 137 20 | 3,204 03 |
| Totals..... | 9909999908 | \$ 46,774 48 | \$ 46,085 72 | \$ 92,860 20 | \$1,903,277 70 |

1893. Statement of Accounts with City of Erie Pa. 1893.

| CITY OF ERIE, PA. | | Dr. |
|--|--------------|---------------|
| WATER—Fire Hydrants..... | \$ 43,000 00 | |
| Park Fountains..... | 1,251 05 | |
| Engine Houses..... | 146 25 | |
| City Hall..... | 155 00 | |
| Flushing Sewers..... | 55 00 | |
| | | \$ 44,607 30 |
| INTEREST—From Second National Bank, Balances, April 1, 1893, to October 1, 1893..... | | 141 00 |
| PUMPING—Accounts..... | | 15 00 |
| Balance..... | | \$ 44,763 30 |
| | | \$ 717,406 51 |
| CREDIT. | | |
| BALANCE—December 31, 1892..... | | \$ 6,400 00 |
| INTEREST—On same to December 31, 1893..... | | 41 55 17 |
| RENT—Of Offices..... | | 1,200 00 |
| Balance..... | | \$ 7,641 62 |

DISBURSEMENTS—Continued.

| Leger Folio. | Department. | Account. | For the Year 1892. | | | From be- ginning of Works to Dec. 31st, 1892. |
|--------------|-------------|-----------------------------------|--------------------|--------------|--------------|---|
| | | | Labor. | Material | Total. | |
| 230 | | Horse, Wagon and Cartage..... | \$ 62 76 | \$ 407 69 | \$ 470 45 | \$ 3,422 78 |
| 233 | | Inlet Pipe No. 1..... | 2 09 | ..... | 2 09 | 111 80 |
| 239 | | Light—Lamps, Oil, Wicks, &c.. | 36 | 12 75 | 13 11 | 32 96 |
| 246 | | Mains and Branches..... | 950 63 | 38 89 | 989 52 | 16,559 36 |
| 258 | | Main, 30-inch..... | 600 82 | 268 41 | 869 23 | 899 33 |
| 261 | | Meters..... | 89 33 | 181 14 | 270 47 | 3,828 81 |
| 275 | | Office Furniture and Fixtures... | 47 | 16 42 | 16 89 | 22 28 |
| 277 | | Oil and Tallow..... | ..... | ..... | ..... | 2 24 |
| 279 | | Paving and Street Repairs..... | ..... | ..... | ..... | 449 94 |
| 285 | | Railroad Switch and Scales..... | 169 29 | 35 07 | 144 36 | 375 68 |
| 288 | | Reservoir..... | 2,505 51 | 392 05 | 2,897 56 | 22,315 45 |
| 315 | | Stand Pipe..... | 02 | 75 | 77 | 77 |
| 319 | | Stop Valves..... | 207 71 | 146 10 | 353 81 | 3,755 13 |
| 323 | | Superintendent's Stores..... | ..... | ..... | ..... | 396 52 |
| 325 | | Superintendent's Expenses..... | 38 | 13 41 | 13 79 | 52 56 |
| 327 | | Shop Rent..... | 2 93 | 102 71 | 105 64 | 365 89 |
| 332 | | Tools and Repairs..... | 114 31 | 148 47 | 262 78 | 4,006 11 |
| 339 | | Waste and Packing..... | ..... | ..... | ..... | 22 15 |
| 351 | Operating. | Advtg., Books, Sta. and Prtg..... | 5 57 | 194 98 | 200 55 | 259 75 |
| 353 | | Buildings and Grounds..... | 617 14 | ..... | 617 14 | 1,246 43 |
| 357 | | Engineers and Firemen..... | 6,312 27 | ..... | 6,312 27 | 106,753 42 |
| 370 | | Engineers' Stores..... | 09 | 3 20 | 3 29 | 2,348 57 |
| 371 | | Inspectors..... | 1,978 72 | ..... | 1,978 72 | 1,978 72 |
| 374 | | Expense..... | 121 15 | 108 00 | 229 05 | 358 84 |
| 376 | | Electric Light Plant..... | 54 | 18 79 | 19 38 | 29 55 |
| 380 | | Fire Hydrants..... | ..... | ..... | ..... | 20 |
| 382 | | Fuel..... | 167 98 | 5,880 69 | 6,048 67 | 145,294 00 |
| 410 | | Insurance..... | 4 00 | 139 95 | 143 95 | 990 20 |
| 418 | | Light—Lamps, Oil, Wicks &c.. | 40 | 14 13 | 14 53 | 222 08 |
| 430 | | Meters..... | 399 28 | 3 76 | 403 04 | 439 00 |
| 436 | | Oil and Tallow..... | 14 56 | 509 66 | 524 22 | 9,744 41 |
| 445 | | Reservoir..... | 432 87 | 12 93 | 445 80 | 885 80 |
| 449 | | Rent of Office..... | 06 | 2 11 | 2 17 | 357 07 |
| 458 | | Tools and Repairs..... | 2 23 | 77 88 | 80 10 | 135 80 |
| 463 | | Taxes—State, County and School | ..... | ..... | ..... | 1,106 83 |
| 465 | | Telephone and Telegraph..... | 4 56 | 159 68 | 164 24 | 349 97 |
| 470 | | Waste and Packing..... | 10 82 | 378 87 | 389 69 | 4,877 48 |
| 475 | Accounting. | Water Rents Returned..... | 3 94 | 138 06 | 142 00 | 217 23 |
| 509 | | Advtg., Books, Sta. and Prtg... | 9 15 | 320 22 | 329 37 | 8,068 69 |
| 518 | | Expense..... | 89 | 81 29 | 32 18 | 14,732 07 |
| 522 | Sundries. | Horse, Wagon and Cartage..... | ..... | ..... | ..... | 17 30 |
| 531 | | Postage..... | 8 00 | 280 32 | 288 32 | 4,833 91 |
| 551 | | Salaries..... | 6,375 58 | ..... | 6,375 58 | 154,899 58 |
| 626 | Legal. | City of Erie Sinking Fund Com. | ..... | ..... | ..... | 106,500 00 |
| 628 | | City of Erie..... | ..... | ..... | ..... | 6 41 |
| 703 | | Court Costs..... | 37 20 | ..... | 37 20 | 478 40 |
| 708 | | Counsel Fees..... | 100 00 | ..... | 100 00 | 2,790 38 |
| 713 | | Expense..... | ..... | ..... | ..... | 85 95 |
| | | Totals..... | \$ 46,774 48 | \$ 46,085 72 | \$ 92,860 20 | \$ 1,903,377 70 |

*These accounts not kept previous to 1891.

†These accounts not kept previous to 1892.

‡These accounts not kept previous to 1893.

RECAPITULATION.

| Department. | For the Year 1893. | | | | From be- ginning of Works to Dec. 31st, 1893. |
|-------------------|--------------------|--------------|--------------|--------------|---|
| | Pro Rata. | Labor. | Material. | Total. | |
| Construction..... | 6084258918 | \$ 22,021 07 | \$ 34,477 48 | \$ 56,498 55 | \$1,237,030 47 |
| Maintenance..... | 1236238991 | 8,146 02 | 3,333 72 | 11,479 74 | 96,075 94 |
| Operating..... | 1908057488 | 10,075 57 | 7,642 69 | 17,718 26 | 277,019 30 |
| Accounting..... | 0756669708 | 6,594 62 | 631 83 | 7,026 45 | 182,341 55 |
| Sundries..... | | | | | 106,566 41 |
| Legal..... | 0014774898 | 187 20 | | 187 20 | 3,304 03 |
| Totals..... | 999999998 | \$ 46,774 48 | \$ 46,085 72 | \$ 92,860 20 | \$1,903,277 70 |

1893. Statement of Accounts with City of Erie Pa. 1893.

| CITY OF ERIE, PA. | | DR. |
|--|--------------|---------------|
| WATER—Fire Hydrants..... | \$ 43,000 00 | |
| Park Fountains..... | 1,251 05 | |
| Engine Houses..... | 146 25 | |
| City Hall..... | 185 00 | |
| Flushing Sewers..... | 55 00 | |
| | | \$ 44,637 30 |
| INTEREST—From Second National Bank, Balances, April 1, 1893, to October 1, 1893..... | | 143 68 |
| PLUMBING—Accounts..... | | 35 00 |
| Balance..... | | \$692,648 83 |
| | | \$ 737,464 81 |
| CREDIT. | | |
| BALANCE—December 31, 1892..... | | \$694,589 44 |
| INTEREST—On same to December 31, 1893..... | | 41,675 37 |
| RENT—Of Offices..... | | 1,200 00 |
| | | \$ 737,464 81 |
| Balance..... | | \$ 692,648 83 |

Pumping Engine Statistics for 1893.

The pumps are three in number. Nos. 1 and 2 are known as the Cornish Bull Pumps. The diameter of each plunger is 20½ inches, and each has a stroke of 10 feet. The capacity of each pump is estimated to be 165 gallons to each stroke. Pump No. 3 is a Gaskill Horizontal Compound Pumping Engine, having two H. P. cylinders 21 in. diameter, two L. P. cylinders 42 in. diameter, and two pumps 19½ in. diameter, and all 36 in. stroke, of a guaranteed capacity of 5,000,000 gallons daily at a piston speed of 120 feet per minute against a head of 237 feet. The Stand Pipe is 251 feet high. The Reservoir is nearly two miles from the Pumping Works, the bottom of which is 210 feet above the surface of the Bay, and the Water has been maintained during the year at an average depth in the Reservoir of about 25½ feet.

| Months | No. 1. | | | No. 2. | | | No. 3. | | | No. 4. | | | Totals. | | | Average Feet in Water |
|-------------|--------------|------------|--------------|-------------|--------------|---------------|--------------|-------------|--------------|---------------|--------------|---------------|--------------|---------------|-------------------|--------------------------------|
| | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | Daily Average. | |
| January.. | 6 | 9,118,305 | 17 | 33,770,550 | 31 | 172,126,500 | ..... | ..... | ..... | ..... | 54 | 215,015,445 | 54 | 215,015,445 | 6,935,982 | 237.35 |
| February | 5 | 5,946,435 | 21 | 30,691,050 | 28 | 146,788,460 | ..... | ..... | ..... | ..... | 54 | 180,425,045 | 54 | 180,425,045 | 6,765,212 | 237.44 |
| March..... | ..... | ..... | 31 | 51,814,950 | 31 | 150,797,920 | ..... | ..... | ..... | ..... | 62 | 202,612,870 | 62 | 202,612,870 | 6,535,899 | 237.64 |
| April..... | 4 | 3,768,105 | 25 | 33,282,975 | 29 | 139,486,620 | ..... | ..... | ..... | ..... | 58 | 176,537,700 | 58 | 176,537,700 | 5,884,599 | 237.32 |
| May..... | 2 | 1,140,975 | 24 | 48,552,075 | 29 | 151,269,300 | ..... | ..... | ..... | ..... | 55 | 200,962,250 | 55 | 200,962,250 | 6,482,656 | 235.23 |
| June..... | 9 | 13,557,555 | 25 | 44,468,325 | 29 | 148,151,458 | ..... | ..... | ..... | ..... | 63 | 206,177,338 | 63 | 206,177,338 | 6,572,577 | 236.04 |
| July..... | 5 | 6,248,550 | 31 | 61,540,050 | 31 | 167,727,742 | ..... | ..... | ..... | ..... | 67 | 235,516,342 | 67 | 235,516,342 | 7,597,301 | 236.05 |
| August..... | 4 | 8,684,280 | 27 | 51,812,475 | 31 | 173,082,600 | ..... | ..... | ..... | ..... | 62 | 233,578,755 | 62 | 233,578,755 | 7,534,798 | 237.24 |
| Sept..... | 14 | 23,130,855 | 25 | 49,495,050 | 15 | 68,703,180 | 7 | 44,160,000 | ..... | ..... | 61 | 185,489,085 | 61 | 185,489,085 | 6,177,630 | 234.09 |
| October , | 3 | 43,28,946 | 9 | 15,686,550 | 22 | 122,519,670 | 8 | 51,538,080 | ..... | ..... | 42 | 193,893,240 | 42 | 193,893,240 | 6,254,620 | ..... |
| Nov..... | ..... | ..... | ..... | ..... | ..... | 46,296,250 | 15 | 94,497,984 | ..... | ..... | 26 | 145,801,984 | 26 | 145,801,984 | 4,860,066 | ..... |
| Dec..... | ..... | ..... | 3 | 5,007,750 | 8 | ..... | 19 | 148,627,656 | ..... | ..... | 19 | 148,627,656 | 19 | 148,627,656 | 4,794,440 | ..... |
| Total.... | 52 | 75,924,090 | 238 | 432,121,800 | 284 | 1,486,949,100 | 49 | 338,643,720 | 623 | 2,333,638,610 | 623 | 2,333,638,610 | 623 | 2,333,638,610 | 6,391,314 | 236.48 |

The regular employees at the Pumping Works are one chief engineer, two assistant engineers, three firemen and one watchman. The chief engineer stands a watch of five hours, from 7 to 12 every forenoon; the assistants divide the remainder of each day equally between them; each one of the firemen stands a watch of eight hours. Besides firing, the firemen unload the coal from the cars, except when two pumps are run, in which case they are assisted by the watchman or a laborer. The chief engineer gives ten hours daily to the service of the Commissioners of Water Works in the City of Erie, the hours when he is not on watch being employed in repairs, supervision, etc. In addition to standing their regular watch, the assistant engineers aid their superior officer in keeping the machinery in order. The watchman takes care of the buildings and grounds, besides doing such other work as may be required of him.

NOTE.—For description of No. 4 Engine see page 28.

WATER WORKS IN THE CITY OF ERIE.

19

Amount of Coal Consumed in Pumping, Gallons of Water Pumped, Average Height Pumped, Cost per Million Gallons, &c., from the First Year the Works were Operated to Dec. 31, 1893.

| Year. | Tons of Coal Consumed. | Price of Coal per Ton from May 1 of each year. | Cost of Coal from January 1 to December 31. | Grades of Bituminous Coal. | Gallons of Water Pumped. | Increase or Decrease. | Number of places supplied. | Number of Fire Hydrants. | Average height of Water in Reservoir above face of Bay. | Cost of Coal per million Gallons raised to Reservoir. | Gallons raised to Reservoir by use of Coal. |
|-----------|------------------------|--|---|----------------------------|--------------------------|-----------------------|----------------------------|--------------------------|---|---|---|
| 1868..... | 59 1 1/2 | 5 05 | \$ 309 61 | Lump. | | | | | | | |
| 1869..... | 544 4 | 5 05 | 4,818 48 | " | 246,648,000 | | 1,218 | 97 | 232 0 | | |
| 1870..... | 1,064 5 | 5 05 | 5,159 10 | " | 279,368,405 | 32,719,535 i | 1,727 | 99 | 232 0 | 18 76 | 98 5 |
| 1871..... | 1,422 7 | 5 05 | 7,117 00 | " | 395,076,000 | 115,707,505 i | 2,140 | 103 | 232 0 | 16 52 | 150 9 |
| 1872..... | 1,308 5 | 5 05 | 6,528 50 | " | 384,062,415 | 11,013,585 d | 2,475 | 107 | 232 0 | 21 90 | 114 8 |
| 1873..... | 1,672 5 | 5 05 | 8,412 65 | " | 444,817,395 | 60,754,980 i | 2,663 | 107 | 232 0 | 17 33 | 126 4 |
| 1874..... | 1,759 0 | 4 85 | 7,709 54 | " | 531,005,475 | 86,188,080 i | 2,700 | 110 | 232 0 | 16 30 | 145 5 |
| 1875..... | 1,836 4 | 4 85 | 8,657 61 | " | 670,726,650 | 139,721,175 i | 2,763 | 112 | 232 0 | 13 30 | 150 3 |
| 1876..... | 1,105 1 | 4 00 | 8,925 22 | " | 660,981,810 | 9,744,840 d | 2,854 | 114 | 232 0 | 12 75 | 135 7 |
| 1877..... | 2,450 6 | 3 70 | 8,509 33 | " | 682,392,315 | 21,410,505 i | 2,915 | 115 | 232 0 | 11 64 | 136 4 |
| 1878..... | 2,463 3 | 3 35 | 7,945 37 | " | 807,800,400 | 125,408,085 i | 3,011 | 121 | 232 0 | 9 19 | 153 6 |
| 1879..... | 2,628 1 | 3 09 | 7,428 92 | " | 775,805,250 | 31,995,150 d | 3,568 | 126 | 232 0 | 8 99 | 120 0 |
| 1880..... | 3,076 1 | 1 99 | 6,978 41 | Slack. | 975,640,934 | 219,835,684 i | 4,110 | 161 | 232 0 | 6 68 | 142 2 |
| 1881..... | 3,430 3 | 1 90 | 6,517 58 | " | 829,759,200 | 145,881,671 d | 4,687 | 171 | 234 0 | 6 45 | 139 7 |
| 1882..... | 2,968 2 | 1 75 | 5,355 93 | " | 815,939,685 | 13,819,575 d | 5,077 | 197 | 234 7 | 4 66 | 170 0 |
| 1883..... | 2,308 2 | 1 55 | 3,998 59 | " | 1,177,781,350 | 101,841,665 i | 5,395 | 248 | 234 3 | 4 99 | 152 4 |
| 1884..... | 3,010 8 | 1 45 | 4,502 61 | " | 1,036,496,665 | 118,715,315 i | 5,658 | 270 | 232 9 | 4 40 | 159 7 |
| 1885..... | 3,243 8 | 1 30 | 4,575 79 | " | 1,117,389,075 | 80,802,410 i | 6,140 | 280 | 233 3 | 3 86 | 165 8 |
| 1886..... | 3,360 0 | 1 25 | 4,318 64 | " | 1,218,213,688 | 100,824,613 i | 6,368 | 318 | 234 1 | 2 95 | 210 0 |
| 1887..... | 2,820 4 | 1 15 | 3,589 31 | " | 1,341,708,002 | 123,494,311 i | 6,600 | 333 | 234 6 | 1 89 | 292 1 |
| 1888..... | 2,392 3 | 1 09 | 2,545 46 | " | 1,475,358,220 | 133,650,218 i | 7,086 | 346 | 235 2 | 1 80 | 301 5 |
| 1889..... | 2,440 0 | 1 08 | 2,661 12 | " | 1,659,025,551 | 184,207,331 i | 7,728 | 372 | 236 9 | 2 18 | 322 4 |
| 1890..... | 2,583 6 | 1 20 | 3,052 89 | " | 1,807,038,580 | 147,413,029 i | 8,255 | 393 | 237 3 | 2 16 | 291 42 |
| 1891..... | 3,120 7 | 1 29 | 3,941 53 | " | 2,047,993,505 | 240,954,925 i | 8,998 | 415 | 237 4 | 2 35 | 270 43 |
| 1892..... | 3,658 0 | 1 32 1/2 | 4,807 11 | " | 2,333,038,610 | 285,645,105 i | 9,087 | 444 | 236 5 | 2 66 | 248 6 |
| 1893..... | 4,643 5 | 1 32 1/2 | 6,218 95 | " | | | | | | | |

Table Showing the Water Rates Per 1,000 Gallons in 121 Cities Where Meters Are Used.

| W. W. Rank. | Rates. | | Municipality. | U. S. Census, 1890. | | Owners | No. Meters Used. | System. |
|----------------|----------|------|---|---------------------|-------------|--------|------------------------|---------|
| | Min. | Max. | | Rank. | Population. | | | |
| 1 | Special. | 20 | Beverly, Mass. | 816 | 10,821 | C | 50 | P |
| 2 | " | 20 | Lynn, Mass. | 51 | 55,727 | C | 494 | P |
| 3 | " | 20 | Salem, Mass. | 99 | 30,80 | C | 139 | P |
| 4 | " | 25 | Worcester, Mass. | 32 | 84,655 | C | 9,022 | G |
| 5 | " | 50 | Wilmington, Del. | 44 | 61,481 | C | 176 | P |
| 6 | 2½ | 8 | Harrisburg, Penn'a. | 75 | 39,385 | C | 1,179 | P |
| 7 | 2½ | 8 | New Bedford, Mass. | 72 | 40,733 | C | 144 | B |
| 8 | 2½ | 6 | Buffalo, N. Y. | 11 | 253,664 | C | 150 | P |
| 9 | 3 | 10 | Washington, D. C. | 14 | 230,392 | U S | 154 | B |
| 10 | 3 | 10 | Newburgh, N. Y. | 183 | 23,067 | C | 3 | B |
| 11 | 3½ | 6½ | Detroit, Mich. | 15 | 206,876 | C | 2,053 | P |
| 12 | 3½ | 10 | Toledo, Ohio. | 38 | 81,484 | C | 750 | P |
| 13 | 4 | 30 | Bridgeport, Conn. | 59 | 48,866 | P | 50 | B |
| 14 | 4 | 30 | McKeesport, Penn'a. | 161 | 20,741 | C | 350 | P |
| 15 | 4½ | 30 | Altoona, Penn'a. | 101 | 30,337 | C | 25 | G |
| 16 | 4½ | 20 | Grand Rapids, Mich. | 47 | 60,278 | C | 496 | P |
| 17 | 4½ | 20 | Milwaukee, Wis. | 16 | 204,468 | C | 9,008 | P |
| 18 | 5 | 10 | Lancaster, Penn'a. | 94 | 32,011 | C | 7 | P |
| 19 | 5 | 10 | Wilkesbarre, Penn'a. | 80 | 37,718 | P | 8 | G |
| 20 | 5 | 10 | Bay City, Mich. | 109 | 27,839 | C | 396 | P |
| 21 | 5 | 10 | Troy, N. Y. | 46 | 60,956 | C | 217 | B |
| 22 | 5 | 15 | Holyoke, Mass. | 86 | 35,637 | C | 177 | G |
| 23 | 5 | 15 | New Albany, Ind. | 155 | 21,059 | P | 62 | P |
| 24 | 5 | 25 | Indianapolis, Ind. | 27 | 166,436 | P | 450 | P |
| 25 | 5 | 30 | Waterbury, Conn. | 107 | 28,646 | C | 188 | B |
| 26 | 5 | 30 | Williamsport, Penn'a. | 116 | 27,132 | P | 16 | |
| 27 | 5 | 85 | Fitchburg, Mass. | 144 | 22,037 | C | 1,267 | G |
| 28 | 5½ | 26½ | Cleveland, O. | 10 | 261,353 | C | 1,776 | P |
| 29 | 5½ | 26½ | Yonkers, N. Y. | 93 | 82,038 | C | 3,200 | P |
| 30 | 6 | 26½ | Baltimore, Md. | 7 | 434,439 | C | 1,018 | P |
| 31 | 6 | 30 | Columbus, O. | 30 | 58,150 | C | 700 | P |
| 32 | 6 | 30 | Erie, Pa. | 73 | 40,684 | C | 142 | P |
| 33 | 6 | 10 | Dayton, Ohio. | 45 | 61,290 | C | 150 | P |
| 34 | 6 | 11 | Saginaw, Mich. | 62 | 46,322 | C | 225 | P |
| 35 | 6 | 15 | Louisville, Ky. | 20 | 161,129 | P | 792 | P |
| 36 | 6 | 25 | Binghamton, N. Y. | 88 | 25,005 | C | 396 | P |
| 37 | 6 | 25 | Syracuse, N. Y. | 81 | 88,143 | C | 600 | B |
| 38 | 6 | 30 | Pawtucket, R. I. | 110 | 27,633 | C | 4,081 | P |
| 39 | 6 | 50 | Peoria, Ill. | 71 | 41,024 | P | 1,250 | P |
| 40 | 6 | 1,00 | San Diego, Cal., owned by Co. city lessee | 205 | 16,159 | C | 1,800 | B |
| 41 | 6½ | 10 | Fort Wayne, Ind. | 86 | 35,393 | C | 320 | P |
| 42 | 6½ | 16 | Jacksonville, Florida | 195 | 17,201 | C | 48 | P |
| 43 | 6½ | 80 | Birmingham, Ala. | 119 | 26,178 | P | 500 | P |
| 44 | 7 | 30 | Springfield, Mass. | 65 | 44,179 | C | 1,422 | G |
| 45 | 7½ | 25 | New Orleans, La. | 12 | 242,039 | P | no rep't | P |
| 46 | 7½ | 30 | Hartford, Conn. | 54 | 53,280 | C | " | G |
| 47 | 7½ | 30 | Utica, N. Y. | 67 | 44,007 | P | 2,700 | G |
| 48 | 8 | 30 | Albany, N. Y. | 29 | 94,923 | C | 60 | B |
| 49 | 8 | 30 | Philadelphia, Pa. | 3 | 1,046,964 | C | 788 | P |
| 50 | 8 | 10 | Chicago, Ill. | 2 | 1,099,880 | C | 4,356 | P |
| 51 | 8 | 10 | Joliet, Ill. | 132 | 28,264 | C | 41 | P |
| 52 | 8 | 12 | Trenton, N. J. | 50 | 57,458 | C | 125 | P |
| 53 | 8 | 16 | Akron, Ohio. | 111 | 27,601 | P | 125 | B |
| 54 | 8 | 16 | Reading, Penn'a. | 48 | 58,661 | C | 11 | G |
| 55 | 8 | 90 | Covington, Ky. | 82 | 37,371 | C | 486 | P |
| 56 | 8 | 20 | Lawrence, Mass. | 64 | 44,654 | C | 2,001 | P |
| 57 | 8 | 20 | Youngstown, Ohio. | 91 | 33,920 | C | 200 | P |
| 58 | 8 | 25 | Seranton, Penn'a—two companies | 89 | 75,215 | P | 28 | G |
| 59 | 8 | 30 | Galveston, Texas. | 106 | 29,064 | C | 5 | P |
| 60 | 8 | 30 | Terre Haute, Ind. | 108 | 30,217 | P | 85 | P |
| 61 | 8 | 40 | Chattanooga, Tenn. | 105 | 29,100 | P | 1,050 | P |
| 62 | 8 | 50 | Memphis, Tenn. | 43 | 64,495 | P | 300 | P |
| 63 | 8, 97½ | 15 | Cincinnati, Ohio. | 9 | 296,908 | C | 1,650 | P |
| 64 | 9 | 25 | Kansas City, Mo. | 24 | 132,716 | P | 2,700 | H |
| 65 | 9 | 80 | New Haven, Conn. | 35 | 81,998 | P | 100 | B |
| 66 | 10 | 30 | Augusta, Georgia. | 90 | 33,300 | C | 6 | P |
| 67 | 10 | 14 | Brooklyn, N. Y. | 4 | 806,843 | C | 2,232 | P |
| 68 | 10 | 20 | Rochester, N. Y. | 22 | 133,806 | C | 3,800 | B |
| 69 | 10 | 20 | Cambridge, Mass. | 41 | 70,025 | C | 287 | B |
| 70 | 10 | 20 | Jersey City, N. J. | 19 | 163,003 | C | 400 | B |

Table Showing the Water Rates Per 1,000 Gallons in 121 Cities Where Meters Are Used.—Continued.

| W. Rank | Rates | | Municipality. | U. S. Census, 1890. | | Owners | No. Meters Used. | System. |
|---------|-------|-------|------------------------|---------------------|-------------|--------|------------------|---------|
| | Min. | Max. | | Rank | Population. | | | |
| 1 | 10 | 30 | Paterson, N. J. | 36 | 78,347 | P | 80 | P |
| 2 | 10 | 20 | Pittsburgh, Penn'a. | 13 | 288,617 | C | 50 | P |
| 3 | 10 | 30 | St. Paul, Minn. | 23 | 133,156 | C | 656 | B |
| 4 | 10 | 25 | Seattle, Wash. | 70 | 42,881 | C | 150 | P |
| 5 | 10 | 25 | Fall River, Mass. | 40 | 74,386 | C | 3,975 | P |
| 6 | 10 | 30 | St. Louis, Mo. | 5 | 451,770 | C | 3,900 | P |
| 7 | 10 | 25 | Mobile, Alabama. | 97 | 31,076 | P | no rept | P |
| 8 | 10 | 40 | Springfield, Ohio. | 35 | 31,895 | C | 50 | P |
| 9 | 10 | 50 | Elmira, N. Y. | 104 | 29,708 | P | 325 | B |
| 10 | 10 | 18½ | Boston, Mass. | 6 | 448,477 | C | 4,245 | B |
| 11 | 10 | 18½ | Chelsea, Mass. | 108 | 27,909 | C | no rept | P |
| 12 | 10 | 18½ | Bromfield, Mass. | 74 | 40,152 | C | 51 | P |
| 13 | 10 | 25 | Sioux City, Iowa. | 78 | 37,806 | C | 160 | P |
| 14 | 10 | 25 | Newton, Mass. | 129 | 24,379 | C | 3,400 | P |
| 15 | 12½ | 35 | Montgomery, Ala. | 148 | 21,883 | P | 685 | P |
| 16 | 12½ | 50 | Topeka, Kansas. | 98 | 31,007 | P | 95 | P |
| 17 | 12½ | 3.00 | Little Rock, Arkansas. | 120 | 25,874 | P | 31 | P |
| 18 | 13 | 25 | Tacoma Wash. | 84 | 36,000 | C | 214 | B |
| 19 | 13 | 35 | Lincoln, Neb. | 52 | 56,154 | C | 90 | P |
| 20 | 13½ | ..... | New York, N. Y. | 1 | 1,515,301 | C | 27,041 | B |
| 21 | 14.4 | 45 | Quincy, Ill. | 96 | 31,494 | P | 519 | P |
| 22 | 14½ | 18½ | Lowell, Mass. | 37 | 77,696 | C | 2,800 | G |
| 23 | 15 | ..... | Newark, N. J. | 17 | 181,830 | C | 556 | P |
| 24 | 15 | ..... | Savannah, Ga. | 69 | 43,189 | C | 3 | P |
| 25 | 15 | 20 | Providence, R. I. | 25 | 132,146 | C | 10,908 | P |
| 26 | 15 | 25 | Allentown Penn'a. | 173 | 25,228 | C | 1 | P |
| 27 | 15 | 35 | Lexington, Ky. | 152 | 21,567 | P | 800 | P |
| 28 | 15 | 30 | Macon, Ga. | 137 | 22,146 | P | 213 | B |
| 29 | 15 | 35 | Council Bluffs, Iowa. | 153 | 21,474 | P | 210 | B |
| 30 | 15 | 45 | La Crosse, Wis. | 124 | 25,090 | C | 3 | P |
| 31 | 15½ | 28½ | Hoboken, N. J. | 68 | 43,648 | P | 5,580 | P |
| 32 | 20 | ..... | Manchester, N. H. | 60 | 44,126 | C | 1,608 | P |
| 33 | 20 | 30 | Brocton, Mass. | 114 | 27,294 | C | 2,000 | G |
| 34 | 20 | 33½ | Portland, Me. | 83 | 36,425 | P | 329 | P |
| 35 | 20 | 40 | Muskegon, Mich. | 138 | 22,702 | C | no rept | P |
| 36 | 20 | 40 | Norfolk, Va. | 89 | 34,871 | C | 120 | P |
| 37 | 20 | 45 | Fort Worth, Texas. | 184 | 23,076 | P | 44 | P |
| 38 | 20 | 50 | Butte City, Mont. | 322 | 10,723 | P | 150 | B |
| 39 | 20 | 50 | Dubuque, Iowa. | 102 | 30,311 | P | no rept | B |
| 40 | 20 | 50 | Leavenworth, Kas. | 169 | 19,768 | P | 350 | B |
| 41 | 20.4 | 40 | Davenport, Iowa. | 116 | 26,872 | P | 310 | B |
| 42 | 21½ | 40 | San Francisco, Cal. | 8 | 298,992 | P | 15,500 | B |
| 43 | 22½ | 45½ | Sacramento, Cal. | 117 | 26,386 | C | no rept | P |
| 44 | 24 | 25½ | Malden, Mass. | 185 | 22,631 | C | 67 | B |
| 45 | 25 | ..... | Salt Lake City, Utah. | 63 | 44,843 | C | no rept | G |
| 46 | 25 | 50 | San Antonio, Texas. | 81 | 37,673 | P | 40 | P |
| 47 | 25 | 60 | Charleston, S. C. | 83 | 64,856 | P | 20 | P |
| 48 | 26½ | 38½ | Los Angeles, Cal. | 57 | 60,395 | P | 260 | G |
| 49 | 30 | 50 | Gloucester, Mass. | 127 | 24,651 | C | 40 | P |
| 50 | 30 | 55 | Oakland, Cal. | 60 | 48,682 | P | 180 | B |
| 51 | 50 | ..... | Dallas, Texas. | 77 | 38,067 | C | 14 | P |

C—City. P—Corporation or Company.
G—Gravity. P—Pumping. B—Both.

Main Pipes Laid in 1893.

| LOCATION. | 1½ IN. | 2 INCH. | 4 INCH. | 6 INCH. | 12 INCH. |
|--|--------|---------|---------|----------|-------------------------|
| Front, bet Peach and Sassafras..... | | | 464 4 | | |
| 2d, bet Poplar and Liberty..... | | | 341 | | |
| 3d, East and West..... | | | 356 | | |
| 5th, bet Liberty and Plum..... | | | | 242 9 | 249 5 ft 3 in rem. |
| 6th, bet Plum and Cranberry..... | 357 | † | 13 7 | 1,421 8 | † Hd't branc's |
| 7th, bet Myrtle and Cherry..... | | † | 14 9 | | " " |
| 8th, cor Cranberry..... | † 8 8 | | | | 1½ " " |
| 9th, east from East ave..... | | 250 3 | † 8 5 | | H. B. |
| 10th, East and West..... | | | 44 | 427 2 | |
| 11th, East and West..... | | | | 699 | |
| 12th, bet Cherry and Poplar..... | | | | | 722 Replac'g 6 in |
| 14th, East and West..... | | | | 453 6 | |
| 15th, bet Ash and Reed..... | | | | 301 | |
| 16th, West..... | | | | 215 | |
| 17th, West..... | | † | 23 8 | | H. B. |
| 19th, West..... | | | | 1,255 | |
| 21st, East and West..... | | | | 394 | |
| 22nd, East..... | | | | 512 9 | |
| 23d, East..... | | † | 8 6 | 732 11 | |
| 24th, East..... | | † | 17 | 634 6 | H. B. |
| 26th, West..... | | | 1,559 | | 101 908 ft 1 in, 101 ft |
| 26th, West..... | | † | 8 4 | | 4 in removed. |
| 27th, East..... | | † | 9 6 | | H. B. |
| Ross, bet 4th and 5th..... | | | | 51 | H. B. |
| Ash, bet 12th-13th. 20th-21st..... | | | 318 | 408 | |
| German, bet 6th-7th. 17th-18th..... | | | | 459 9 | |
| French, bet 21st and 22nd..... | | | | 127 | |
| State, bet 21st-23d. 12th-14th..... | | | | 939 | 420 ft 4 in rem'd |
| Myrtle..... | | | | 710 4 | |
| Poplar, bet 11th-12th. 12th-13th..... | | † | 8 | 685 2 | H. B. |
| Liberty, bet 19th-20th. 26th-27th..... | | † | 8 6 | 483 | H. B. |
| Plum..... | | | 176 | 1,023 | |
| Plum, bet 6th and 7th..... | | † | 10 6 | | H. B. |
| Cascade, bet 9th-11. 3d-4th..... | | | | 431 | |
| Cranberry, bet 12th and 13th..... | | † | 8 9 | 133 | H. B. |
| Hazel, bet 26th and 30th..... | | † | 8 | 812 | H. B. |
| Hess ave, cor 10th..... | | † | 8 3 | | H. B. |
| Cochran, bet 26th and 29th..... | | | | 331 | |
| Payne ave and 10th..... | 15 | | | 139 | |
| McCarter ave..... | | | | 48 | |
| Elliot ave..... | | † | 5 4 | 516 | H. B. |
| Cottage ave..... | | | 300 | | |
| Total..... | 8 8 | 622 3 | 3,719 5 | 14,645 6 | 823 30 in. |
| Front and Ches't at Pumping Sta | | | | | 51 9 |

Main Pipes Laid in 1893.

SUMMARY.

| | |
|----------------------|------------|
| 1½ inch..... | 8 8 feet |
| 2 "..... | 622 3 " |
| 4 "..... | 3,719 5 " |
| 6 "..... | 14,645 6 " |
| 12 "..... | 823 " |
| 30 "..... | 51 9 " |
| Total feet, 19,870 7 | |

LESS MAIN PIPE REMOVED.

| | |
|-------------|-------|
| ½ inch..... | 249 5 |
| 1 "..... | 908 |
| 4 "..... | 521 |
| 7 "..... | 722 |
| 2,400 6 | |

Total feet, 17,470 1

Or 3 miles, 1,630 1 feet

Amount laid to January 1, 1893..... 81 miles, 4,438 7 feet

Total, December 31, 1893..... 85 miles, 1,788 ½ feet

Connections Made, 1893.

SUMMARY.

| | | |
|-------------|-------|-----|
| ½ inch..... | total | 556 |
| 1 "..... | " | 10 |
| 1½ "..... | " | 2 |
| 1½ "..... | " | 5 |
| 2 "..... | " | 6 |
| 4 "..... | " | 9 |
| 6 "..... | " | 1 |
| | | 589 |

LESS REMOVED.

| | | |
|-------------|-------|----|
| ½ inch..... | total | 11 |
| 1 "..... | " | 1 |
| 2 "..... | " | 2 |
| 3 "..... | " | 1 |
| | | 15 |

Total increase..... 574 11,226 1 feet

Or 2 miles, 666 1 feet

Connections to January 1, 1893..... 31 " 976 1 "

Total, December 31, 1893..... 33 miles, 1,642 ½ feet

In addition 122 service connections were renewed, mostly in streets to be paved, as follows:

| | |
|--------------------|-----|
| Parade street..... | 2 |
| State "..... | 38 |
| Seventh "..... | 54 |
| Fourth "..... | 6 |
| Tenth "..... | 19 |
| Sixth "..... | 1 |
| Holland "..... | 2 |
| Total..... | 122 |

Stop Valves, 1893.

| STREET. | | Size. | Kind. | Remarks. |
|--------------------|---------------------------|-------|--------|----------|
| Front and Chestnut | At Pumping Station | 48 | Eddy | |
| " " " | " " | 48 | " | |
| Second | East Line of Liberty | 4 | " | |
| Third | West " " Ash | 4 | " | |
| Fifth | East " " Plum | 6 | " | |
| Sixth | West " " Cascade | 6 | " | |
| " | " " " Raspberry | 6 | " | |
| Eighth | East " " Cranberry | 1 1/2 | | |
| Ninth | " " " East Ave | 2 | | |
| Twelfth | West " " Cherry | 12 | Eddy | 6 in rem |
| Fourteenth | East " " Peach | 6 | Ludlow | |
| Fifteenth | " " " Ash | 6 | " | |
| Sixteenth | " " " Plum | 6 | Eddy | |
| Nineteenth | West " " Cherry | 6 | Ludlow | |
| " | " " " Poplar | 6 | " | |
| Twenty-first | East " " Cascade | 6 | Eddy | |
| Twenty-second | " " " German | 6 | " | |
| Twenty-third | West " " Ash | 6 | Ludlow | |
| " | " " " German | 6 | Eddy | |
| Twenty-fourth | East " " Ash | 6 | " | |
| Twenty-sixth | " " " Raspberry | 4 | " | |
| " | " " " Cranberry | 4 | " | |
| Cottage Ave | North " " Twenty-first | 4 | " | |
| Payne Ave | " " " Tenth | 6 | Ludlow | |
| Ash | " " " Thirteenth | 6 | Eddy | |
| " | " " " Twenty-first | 6 | Ludlow | |
| German | " " " Seventh | 6 | " | |
| French | South " " Tenth | 4 | Eddy | |
| " | North " " " | 4 | " | |
| State | South " " Twenty first | 6 | " | 4 in rem |
| " | " " " Twelfth | 6 | Ludlow | |
| " | 195 ft N " " Fourteenth | 6 | " | |
| Peach | South " " Fifteenth | 6 | Eddy | |
| Myrtle | " " " Twenty-ninth | 6 | Ludlow | |
| Chestnut | 15 ft N " " Twenty-fourth | 4 | Eddy | 3 in rem |
| Poplar | South " " Twelfth | 6 | " | |
| Liberty | " " " Nineteenth | 6 | Ludlow | |
| " | " " " Twenty-sixth | 6 | Eddy | |
| Plum | North " " Tenth | 6 | Ludlow | |
| " | South " " Eighth | 6 | " | |
| " | " " " Sixth | 6 | " | |
| " | " " " Third | 4 | Eddy | |
| Cascade | " " " Tenth | 6 | Ludlow | |
| " | North " " Fourth | 6 | Eddy | |
| Hazel | " " " Twenty-ninth | 6 | " | |
| Cochran | " " " " | 6 | " | |
| Eliot | East " " Peach | 6 | Ludlow | |

Stop Valves, 1893.

SUMMARY.

| SIZE. | No. | | | |
|-------------------|-----|-----------------|-------|-------|
| 1½ | 1 | (Less Removed ) | ..... | 1 |
| 2 | 1 |  | ..... | 1 |
| 4 | 9 | 1 | ..... | 8 |
| 6 | 33 | 1 | ..... | 32 |
| 12 | 1 |  | ..... | 1 |
| 48 | 2 |  | ..... | 2 |
| | | | | <hr/> |
| | | | | 45 |
| 1.3 in. | | | | 1 |
| | | | | <hr/> |
| Net increase..... | | | | 44 |

Tees Placed in 1893.

| | |
|----------------------|----|
| 4x4..... | 12 |
| 6x3..... | 1 |
| 6x4..... | 31 |
| 12x6..... | 2 |
| <hr/> | |
| Total increase | 46 |

Crosses Placed in 1893.

| | | | | |
|-------------------|---|-----------|-------|-------|
| 4x4 | 2 | Removed 2 | ..... | 0 |
| 6x4 | 2 | " 1 | ..... | 1 |
| 6x6 |  |  | ..... | 13 |
| 12x6 |  |  | ..... | 2 |
| | | | | <hr/> |
| Net increase..... | | | | 16 |



Fire Hydrants, 1893.

| STREET. | LOCATION. | NAME. |
|---------------------|--|-----------|
| Front..... | Between Peach and Sassafras..... | Matthews |
| Fifth..... | N W corner Chestnut [in place of West Jersey]. | " |
| Sixth..... | N E " Cascade..... | " |
| "..... | N E " Raspberry..... | " |
| Ninth..... | Between French and Holland..... | " |
| Tenth..... | " " " "..... | " |
| "..... | S E corner German [in place of West Jersey] | " |
| "..... | N W " Holland [in place of West Jersey]. | " |
| Twelfth..... | N E " Poplar..... | " |
| Thirteenth..... | N W " Ash [in place of Pittsburg]. | " |
| Eighteenth..... | N W " Liberty [in place of old one]..... | " |
| Twenty-third..... | N E " State..... | " |
| Twenty-fourth..... | N W " Parade..... | " |
| "..... | N W " German..... | " |
| Twenty-sixth..... | N E " Cranberry..... | " |
| Twenty-seventh..... | Between Pennsylvania and Brandes..... | Bay State |
| Eliot..... | N E corner Peach..... | " |
| Hess ave..... | N E " Tenth..... | Matthews |
| French..... | N E " Fourteenth [in place of old one]... | " |
| Peach..... | N E " Third [in place of Bay State]..... | " |
| Poplar..... | Between Twelfth and Thirteenth..... | Bay State |
| Liberty..... | S E corner Nineteenth..... | Matthews |
| Plum..... | Between Sixth and Seventh..... | " |
| Cranberry..... | S E corner Twelfth..... | " |
| Hazel..... | 365 feet south of Twenty-ninth..... | Bay State |
| Eighth..... | Corner Cranberry, 1½..... | Jarecki |

Fire Hydrants Placed, 1893.

SUMMARY.

| | |
|---------------------|----|
| Matthews..... | 21 |
| Bay State..... | 4 |
| Jarecki, 1½ in..... | 1 |

26

HYDRANTS REMOVED.

| | |
|-------------------------|---|
| West Jersey..... | 3 |
| Old Style Matthews..... | 2 |
| Pittsburg..... | 1 |
| Bay State..... | 1 |

19

| | |
|-----------------------------------|---|
| 1½ in Cart Sprinkler Hydrant..... | 1 |
|-----------------------------------|---|

18 18

PRIVATE HYDRANTS

| | |
|--------------------------------|---|
| The W. L. Scott Co..... | 6 |
| Erie Malleable Iron Works..... | 3 |
| Erie Pail Factory..... | 1 |
| Hollands Manufacturing Co..... | 1 |

11

| | |
|----------------------------------|-----|
| Total for 1893..... | 29 |
| Number in use Dec. 31, 1892..... | 415 |

| | |
|-------------------------------------|-----|
| Total in use December 31, 1893..... | 444 |
|-------------------------------------|-----|

RATES FOR CITY WATER.

ALL ARE ANNUAL, EXCEPT AS OTHERWISE INDICATED.

| | |
|---|----------------|
| Bath Tub, private..... | \$ 3 00 |
| Bath Tub, additional..... | 1 50 |
| Bath Tub, public..... | 5 00 |
| Bakery, per barrel of flour used (but no charge less than \$5)..... | 01 |
| Barber Shop, including hand basin, first chair..... | 4 00 |
| Barber Shop, including hand basin, each additional chair..... | 2 00 |
| Blacksmith Shop, one fire..... | 5 00 |
| Blacksmith Shop, each additional fire..... | 2 50 |
| Boarding House (in addition to family rates), per room..... | 1 00 |
| Brewery, per barrel brewed..... | 03 |
| Building purposes, per bushel lime..... | 02 |
| Butcher Stalls..... | 3 00 to 15 00 |
| Charitable Institutions, one-third annual rates..... | 75 |
| Cow..... | 50 |
| Condensing Boiler for steam heating (per season of 6 months) per horse power..... | 5 00 to 25 00 |
| Eating Houses..... | 5 00 |
| Family..... | 1 00 |
| Hand Basin, for dwellings, hotels and schools, first basin..... | 50 |
| Hand Basin, for dwellings, hotels and schools, each additional..... | 1 00 |
| Hand Basin, in offices, stores and blocks, each..... | 1 00 |
| Hotels (in addition to family rates), per room..... | 2 00 |
| Livery Stable, per horse..... | 1 75 |
| Maltster, per 1,000 bushels of malt..... | 3 00 to 10 00 |
| Offices..... | 2 00 |
| Private stable, one or two horses..... | 1 00 |
| Private Stable, each additional horse..... | 5 00 to 30 00 |
| Printing Offices..... | 5 00 to 25 00 |
| Public Halls..... | 5 00 to 25 00 |
| Saloons..... | 3 00 to 15 00 |
| Stores..... | 10 |
| Schools, per pupil..... | 2 50 |
| Steam Engine, ten hours per day, each horse power..... | 5 00 to 50 00 |
| Slaughter Houses..... | 1 00 |
| Sleeping Rooms..... | 3 00 and up |
| Sprinkling Streets or lawns with hose, per season..... | 2 00 |
| Urinal, private, self-closing..... | 3 00 |
| Urinal, public, self-closing..... | 3 00 to 10 00 |
| Urinal, not self-closing..... | 10 00 to 30 00 |
| Urinal, continuous flow..... | 2 00 |
| Wash Tub (permanent, with waste)..... | 1 00 |
| Wash Tub (permanent, with waste) each additional..... | 10 00 |
| Watering Trough, public..... | 3 00 |
| Water Closet (pan), in private houses..... | 1 50 |
| Water Closet (pan) in private houses, each additional..... | 5 00 |
| Water Closet (pan), public..... | 6 00 |
| Water Closet (hopper), private..... | 10 00 |
| Water Closet (hopper), public..... | 3 00 to 5 00 |
| Work-shop (ordinary use)..... | |

All other uses, when not metered, to be assessed by the Commissioners.

Meter Rates Adopted January 8, 1894.

Approved by the Mayor, January 18, 1894.

| | | | |
|--|--------|-------------|---------|
| Six (6) cents for each one thousand (1,000) gallons by meter measurement, PROVIDED that the minimum receipts per quarter, shall be for a | | | |
| $\frac{1}{4}$ inch or less..... | \$3 75 | 2 inch..... | \$10 00 |
| 1 inch..... | 4 50 | 3 inch..... | 18 75 |
| 1 $\frac{1}{2}$ inch..... | 6 25 | 4 inch..... | 38 75 |

**Report Upon the "Worthington" 12,000,000 Gallon High
Duty Pumping Engine, Tested November 29-30,
December 1-2, 1893.**

ERIE, Pa., Dec. 12, 1893.

Board of Water Commissioners, Erie, Pa.:

GENTLEMEN—Acting under your instructions we conducted the tests of the new 12,000,000-gallon High Duty Worthington Pumping Engine at the Pumping Station, upon November 29th and 30th and December 1st and 2nd, and now submit below our report upon the same, together with the boilers used.

The conditions of the contract were that the pump should be capable of pumping at the rate of 12,000,000 gallons of water per 24 hours into the 30-inch main leading to the reservoir, with ease and safety, and that the economic duty of the engine should be at 12,000,000 gallons duty 110,000,000 foot pounds per 100 pounds of coal, the evaporative capacity of which was assumed to be 10 pounds of dry steam per pound of coal, at the 9,000,000 rate of daily capacity 100,000,000 foot pounds, at 8,000,000 gallons daily capacity 90,000,000 foot pounds, and at 7,000,000 gallons daily capacity 80,000,000 foot pounds, the steam to be computed as evaporated from the temperature of the suction (or injection water), the engine therefore receiving credit for the salvage of heat returned to the boilers in the feed water.

The description of the pumping engine is as follows: The pumping engine is of the Worthington Compound High Duty type, having two high pressure and two low pressure horizontal steam cylinders and two double acting water plungers. The cylinders of the engine are jacketed on sides and ends with steam at boiler pressure, and are covered with asbestos, cement and hair felt, and enclosed with black walnut lagging.

All steam passes through a Worthington separator, placed directly above the main throttle valve. Reheaters, containing tubes in which steam at boiler pressure circulates, are placed between the high and low-pressure cylinders.

The steam valves are of the semi-rotative cylindrical type, and are opened and closed by positive connections to the piston rods in such a manner that if the plunger rod should break, the engine would immediately come to a dead stop, as the valves would cease to move. The admission valves of each side are controlled by the opposite side of the engine, while the cut-off valves are worked by their own side. The valve stems are kept tight by the double precaution of a ground disc joint and a taper bearing, instead of passing through stuffing boxes.

The steam pistons are all of the box form and are fitted with sectional steam packing-rings. The air pumps are horizontal and are double acting. They are two in number and lie directly beneath the high-pressure cylinders, being worked by vertical beams which are coupled to cross-heads on the main piston rods. The air pump cylinders are lower than the valve chambers and are consequently always flooded with water.

The main pump valves are of hard rubber, small in diameter and of low lift. They bear on composition seats screwed into the valve plates and are closed by composition helical springs bearing upon circular brass discs, and are held in place by composition guards.

The compensating cylinders, which form the part of the high duty attachment which enables this engine to use steam expansively, are carried upon the cast iron frames which connect the steam cylinders to the water cylinders, and are fitted with chilled cast iron plungers packed with metallic packing. The feed water is supplied to the boilers by an independent steam pump, and the water trapped in the separator and that condensed in the jackets drains into a receiver, whence it is

returned to the boilers under pressure by a small independent steam pump controlled by a float.

The main suction well of large capacity communicates with the bay by a 60-inch main controlled by gates, and is thus accessible for repairs or cleansing. Screens are so arranged as to detain grosser matter liable to enter the pump.

The water is discharged by the engine through a 30-inch force main which first descends to the cellar where it contains a check valve and stop valve, and then passes horizontally out of the building where it rises to the regulation level at the top of the hill, in company with the parallel 20-inch main from the old pumps and the stand pipe. Numerous attachments are made to this 20-inch main, giving the pump the benefit of this added discharge during the test and daily use.

The boilers in use were of the ordinary horizontal tubular type, of the dimensions noted in table No. 2. The fuel supplied was that in usual daily use at the Pumping Station, fired in the manner usually done.

As the boilers were not specially prepared for a test, their performance forming no part of the pumping engine contract, the results obtained are but a fair indication of the daily ordinary practice at the Station.

TABLE NO. 1.
Principal Dimensions of Engine.

| | |
|--|------------------|
| Number of high pressure cylinders..... | 2 |
| Number of low pressure cylinders..... | 2 |
| Number of water cylinders..... | 2 |
| Diameter of high pressure cylinders..... | 33 inches |
| Diameter of low pressure cylinders..... | 66 inches |
| Diameter of water plungers..... | 29 inches |
| Length of stroke, all cylinders, maximum..... | 49½ inches |
| Diameter of high pressure piston rods..... | 5½ inches |
| Diameter of two low pressure piston rods..... | 4 inches |
| Diameter of piston rod of water cylinders..... | 6½ inches |
| Clearance high pressure cylinders, minimum..... | 1½ per ct. |
| Clearance low pressure cylinders, minimum..... | 1 per ct. |
| Diameter steam pipe..... | 6 inches |
| Length steam pipe, boilers to engine..... | 132 feet |
| Volume of pump cylinders corresponding to one count of counter at full stroke of 49½ inches..... | 555.728 gallons |
| Diameter of force main at engine house..... | 30 inches |
| Diameter of force main in street, one each..... | 30 and 20 inches |
| Elevation of reservoir above engine room floor, about..... | 199 feet |
| Floor above mean water line of well..... | 11 feet |

During the 24 hour test three boilers were in use: Two 72-inch by 18 feet, and one 60-inch by 14 feet, the principal dimensions of which are as follows:

TABLE NO 2.

| Kind of boiler..... | Hor. Tubular | Hor. Tubular |
|--------------------------------|----------------|---------------|
| Number used..... | 2 | 1 |
| Age..... | 2½ years | 13 years |
| Horse power, usual rating..... | 300 | 70 |
| Condition..... | fair | fair |
| Condition of connections..... | leaky | very leaky |
| Diameter..... | 72 inches | 60 inches |
| Length..... | 18 feet | 14 feet |
| Number of 4-inch tubes..... | 168 | 54 |
| Area of H. S. shell..... | 428 | 140 |
| Area of H. S. tube..... | 3166 | 759 |
| Area of grates..... | 60 sq. feet | 20 sq. feet |
| Area through tubes..... | 12.82 sq. feet | 4.12 sq. feet |
| Distance grate to shell..... | 28 inches | 20 inches |
| Distance bridge to shell..... | 10 inches | 10 inches |
| Ratio H. S. to grates..... | 59.9 to 1 | 44.9 to 1 |
| Ratio grates to tube area..... | 4.68 to 1 | 4.85 to 1 |

The 60-inch boiler was in use during the 12,000,000 gallon test only for the lesser duties. Steam was supplied from the 72-inch boilers only.

176105

The method followed in conducting the test was as nearly as possible that prescribed by the American Society of Mechanical Engineers, except that the duty is expressed as per terms of contract instead of per 1,000,000 heat units. In determining the amount of duty performed, the principal data required are the weight of water supplied to the boilers by the main feed pump and the jacket pump, its temperatures, the quantity of moisture in the steam supplied to the engine, its pressure, the pressures in the force and suction main close to the engine, the total volume of the plunger displacements.

The water from the feed pump to the boiler passed through a standard Worthington meter and the readings of this meter were made the basis of the test. This meter was carefully tested three times during the progress of the test by weighing out four cubic feet as read by the meter and comparing the ascertained weight with the standard tabulated weight for the temperature noted. The leakage of the meter was found to be 28-100 of 1 per cent, and the engine was charged with this in correcting the total readings, and was credited with the twelve cubic feet used in testing. The temperature of the feed was logged among the regular readings. With regard to the jacket pump the tank receiving the water was measured between given points upon its water gauge and the pump being stopped the tank was allowed to fill between the given points and the time noted required to fill the same. During these measurements the water was permitted to pass through the main feed pump and correction made at the ascertained rate in total reading.

In all nineteen observations were made to obtain the rate of jacket condensation, and the mean rate is believed to be correct. The temperature of the water was taken as five degrees less than the temperature of steam at the pressure noted. The quantities and temperatures thus obtained were corroborated by the agreement of the calculated and actual temperatures of the feed water (total) leaving the engines. The quantity of moisture in the steam was carefully tested for, by the barrel calorimeter, located within four feet of the main throttle valve, with standardized scales, and thermometers reading to fifths of a degree. The readings of the steam and water pressures were, with the temperatures and water level, taken every thirty minutes. The gauges were under constant observation and the readings represent fairly the mean of the interval. This applies to the observations of the lengths of strokes which varied very slightly during each test. The gauges, both steam and water, were tested by comparison with standard test gauges, and the errors observed were corrected in the totals. Before the test the valves and plunger were examined under pressure, the pump cylinders being drained and the hand holes removed. Both were found exceptionally tight. No gauge was upon the suction main. The pressure due to its column was computed from the barometric pressure and its mean height.

A set of indicator diagrams hereto attached were taken as noted upon them during the trial. Many were taken at intervals, but as the steam and load were practically constant, the differences are scarcely perceptible, and those submitted may serve as the average of those taken upon the tour noted. During the tests all water connections and steam pipe connections to other boilers were tightly closed, and all observed leakages of steam or water carefully estimated and recorded.

These tests were carefully conducted by H. R. Barnhurst and Fred A. Roth, on the part of the Board of Water Commissioners, assisted by Passed Assistant Engineer Gustav Kaemmerling, U. S. N., who, being temporarily in the city, kindly volunteered, and Harry G. Barnhurst, in the presence of Messrs. E. H. Foster and E. L. Maltby, representing the Worthington Company, assisted by Mr. Kirkbride, who erected the engine.

The engine worked smoothly throughout the entire test. No heating of the oscillating trunnions occurred under the heaviest duty, and no accident of any kind occurred at any time, either during the test or the preparation for it.

TABLE NO. 8 Duty Trial of Engine.

| Date of test, 1893..... | Nov. 29-30. | Dec. 1. | Dec. 2. | Dec. 3. | Dec. 4. | Dec. 5. | Dec. 6. |
|---|----------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Duration of test, hours..... | 84 | 8 | 8 | 6 | 6 | 6 | 6 |
| DIMENSIONS. | | | | | | | |
| Net area of plunger, square inches..... | 660.519 | 660.519 | 660.519 | 660.519 | 660.519 | 660.519 | 660.519 |
| Average length of stroke, inches..... | 48.85 | 49.46 | 49.46 | 49.46 | 49.46 | 49.46 | 49.46 |
| Gallons, one displacement..... | 136.173 | 137.873 | 137.873 | 137.873 | 137.873 | 137.873 | 137.873 |
| Gallons, one count of counter..... | 544.692 | 551.494 | 551.494 | 551.494 | 551.494 | 551.494 | 551.494 |
| TEMPERATURES. | | | | | | | |
| Water in pump well (suction)..... | 35° | 35° | 35° | 35° | 35° | 35° | 35° |
| Temperature of water supplied to boilers by main feed pump..... | 123.5° | 133.5° | 133.5° | 140.5° | 140.5° | 140.5° | 140.5° |
| Temperature supplied by jacket pump..... | 315° | 317.3° | 317.3° | 316.8° | 316.8° | 316.8° | 317.28° |
| FEED-WATER. | | | | | | | |
| Weight of water supplied by main feed pump, pounds..... | 214.272 | 50.379 | 50.379 | 33.940 | 33.940 | 33.940 | 29.559 |
| Weight of water supplied by jacket pump..... | 20.786 | 6.836 | 6.836 | 4.334 | 4.334 | 4.334 | 3.866 |
| Net equivalent water fed to boilers from temperature of suction..... | 213.915 | 51.334 | 51.334 | 34.102 | 34.102 | 34.102 | 29.810 |
| Leakage and diverted uses..... | 4542 | 739 | 739 | 540 | 540 | 540 | 540 |
| Exhaustment per calorimeter, per cent..... | 3 1/2 | 3.4-10 | 3.4-10 | 3 | 3 | 3 | 2 |
| Net dry steam consumed by engine under contract conditions..... | 202.045 | 48.875 | 48.875 | 32.613 | 32.613 | 32.613 | 28.685 |
| AVERAGE GAUGE PRESSURES. | | | | | | | |
| Steam at boilers, pounds..... | 78.72 | 79.82 | 79.82 | 79.92 | 79.92 | 79.92 | 80.23 |
| Steam at engines, pounds..... | 75.48 | 76.42 | 76.42 | 77.72 | 77.72 | 77.72 | 78.34 |
| Vacuum, inches..... | 27.74 | 27.65 | 27.65 | 27.63 | 27.63 | 27.63 | 27.98 |
| Barometer, inches..... | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 | 29.7 |
| Water gauge, pounds..... | 98 | 96.25 | 96.25 | 96 | 96 | 96 | 95 |
| Well gauge, inches..... | 48.4" | 40.88" | 40.88" | 40.4" | 40.4" | 40.4" | 42.61" |
| Distance centres of gauges, feet..... | 4.04 | 3.40 | 3.40 | 3.36 | 3.36 | 3.36 | 3.55 |
| Total head on plungers, pounds..... | 107.17 | 105.15 | 105.15 | 104.88 | 104.88 | 104.88 | 103.96 |
| MISCELLANEOUS. | | | | | | | |
| Revolutions by counter..... | 22.974 | 5.674 | 5.674 | 3.737 | 3.737 | 3.737 | 3.285 |
| Total single strokes..... | 91.916 | 22.696 | 22.696 | 14.048 | 14.048 | 14.048 | 13.140 |
| Average per minute..... | 63.62 | 47.28 | 47.28 | 41.52 | 41.52 | 41.52 | 36.50 |
| Average piston speed per minute..... | 129.466 | 97.966 | 97.966 | 85.466 | 85.466 | 85.466 | 75.372 |
| Gallons pumped during test..... | 12,475.620 | 3,129.176 | 3,129.176 | 2,057.300 | 2,057.300 | 2,057.300 | 1,815.137 |
| Gallons pumped per hour..... | 519.818 | 391.147 | 391.147 | 342.868 | 342.868 | 342.868 | 302.593 |
| Gallons pumped per 24 hours..... | 12,475.620 | 9,387.538 | 9,387.538 | 8,229.562 | 8,229.562 | 8,229.562 | 7,265.547 |
| PRINCIPAL RESULTS. | | | | | | | |
| Foot pounds, main engine..... | 25,732,241.885 | 6,331,323.066 | 6,331,323.066 | 4,153,160.492 | 4,153,160.492 | 4,153,160.492 | 3,632,874.093 |
| Foot pounds, feed pump..... | 39,597.465 | 9,310.000 | 9,310.000 | 6,272.110 | 6,272.110 | 6,272.110 | 5,462.310 |
| Total foot pounds, work performed..... | 25,771,839.350 | 6,340,633.066 | 6,340,633.066 | 4,159,432.602 | 4,159,432.602 | 4,159,432.602 | 3,638,336.403 |
| Duty based upon 100 coal, evaporating to lbs. water per lb. from tem. of suction..... | 127,554.947 | 129,731.623 | 129,731.623 | 127,539.098 | 127,539.098 | 127,539.098 | 126,837.594 |
| Horse power of engines..... | 586 | 432 | 432 | 375 | 375 | 375 | 348 |

TABLE NO. 4.

Test of Boilers.

| Date | Nov. 29-30 | Dec. 1. | Dec. 2. |
|--|------------|---------|---------|
| Duration of test, hours..... | 24 | 14 | 6 |
| Manner of stop and start..... | usual | usual | usual |
| Kind of coal..... | slack | slack | slack |
| Coal fired..... | 27,054 | 10,908 | 4,050 |
| Ash and cinder..... | 1,832 | 715 | 600 |
| Percentage of ash..... | .06.77 | .06.6 | .14.8 |
| Water fed to boiler..... | 235,061 | 95,489 | 33,364 |
| Coal per hour, pounds..... | 1,123 | 715 | 675 |
| Coal per hour per square foot grate, pounds..... | 14.04 | 11.92 | 11.25 |
| Water per hour..... | 9,794 | 6,821 | 5,561 |
| Water per hour per square foot H. S..... | 2.18 | 1.9 | 1.55 |
| Mean boiler pressure..... | 77.72 | 79.82 | .81 |
| Temperature feed entering boiler..... | 135° | 152.5 | 155° |
| Temperature escaping gases..... | | | 400° |
| Water per pound coal..... | 8.69 | 8.75 | 8.24 |
| Water per pound coal from and at 212°..... | 9.4 | 9.3 | 8.74 |
| Water per pound combustible..... | 9.7 | 9.36 | 9.67 |
| Water per pound combustible from and at 212°..... | 10.47 | 9.96 | 10.26 |
| SUMMARY. | | | |
| Gallons water pumped to reservoir per lb. coal fired.. | 461 | 475 | 448 |
| Pounds water evaporated per \$1.00 worth of fuel..... | 13,121 | 13,212 | 12,442 |
| Gallons water pumped per \$1.00 worth of fuel..... | 696.110 | 717.250 | 676.480 |
| Pounds feed water actual per I. H. P..... | 16.89 | 16.7 | 17. |
| Net pounds dry steam per I. H. P..... | 14.5 | 14.3 | 14.57 |

CONCLUSION.

The result of the tests show that the requirements of the contract in the matters of both capacity and economy have been completely fulfilled. Without an effort to exceed the intended speed the excess upon the 12,000,000 rate was nearly 4 per cent, and the behavior of the pumping engine was such as to encourage the belief that a much larger percentage of excess could easily be maintained if necessary. The limitation by the contract to a pressure of eighty pounds at the boilers operated somewhat adversely to the pump at its highest rate of pumping on account of the less number of possible expansions. Without doubt an increase of boiler pressure to 90 or 100 pounds will show a considerable gain in economy. It is gratifying to note that the guaranteed duty was exceeded by the percentages .11.59, .29.7, .41.7, .58.5.

The new pumping engine furnishes the desired increase of capacity to the Water Works in a manner we trust gratifying to the Board of Water Commissioners and satisfactory to the citizens of Erie.

Sincerely yours,

H. R. BARNHURST, M. E.

ANNUAL REPORT

OF THE

COMMISSIONERS

OF

WATER WORKS,

IN THE

CITY OF ERIE,

TO THE

MAYOR AND COUNCILS,

FOR THE

YEAR ENDING DECEMBER 31, 1894.

★ CITY CLERK

ERIE, PA.

TIMES, GRAPHIC AND OBSERVER COMPANY.
1895.

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1895



ANNUAL REPORT
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OF
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== == ==
ERIE, PA.:
TIMES, GRAPHIC AND OBSERVER COMPANY.
1895.

COMMISSIONERS OF WATER WORKS.

The Commissioners of Water Works in the City of Erie are appointed by the Court of Common Pleas of Erie County, Pa., for a term of three years, one member being named annually, in May.

| SEVERED IN THE YEAR | COMMISSIONERS FROM ORGANIZATION TO DECEMBER 31, 1894. | | |
|---------------------------|---|-------------------|--------------------|
| 1867 | *Wm. L. Scott, | Henry Rawle, | Wm. W. Reed, |
| 1868 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1869 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1870 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1871 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1872 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1873 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1874 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1875 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1876 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1877 | M. Liebel, | John Gensheimer, | Wm. W. Reed, |
| 1878 | M. Liebel, | *J. M. Bryant, | Wm. W. Reed, |
| 1879 | M. Liebel, | *J. M. Bryant, | *G. W. F. Sherwin, |
| 1880 | M. Liebel, | *J. M. Bryant, | *G. W. F. Sherwin, |
| 1881 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1882 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1883 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1884 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1885 | M. Liebel, | Benjamin Whitman, | Geo. W. Starr, |
| 1886 | C. Kessler, | Benjamin Whitman, | Geo. W. Starr, |
| 1887 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1888 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1889 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1890 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1891 | C. Kessler, | C. J. Brown, | Wm. Hardwick, |
| 1892 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, |
| 1893 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, |
| 1894 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |

* Dead.

† Mr. Selden resigned before the expiration of his second term; Mr. Barr was substituted by the other Commissioners, and afterwards appointed by the Court.

THE PRESENT COMMISSIONERS.

WM. HARDWICK, President.

C. J. BROWN.

T. W. SHACKLETT

OFFICE—City Hall.

OFFICE HOURS—From 8.00 A. M., to 5.00 P. M.; on Mondays to 9 P. M.

REGULAR MEETINGS OF THE COMMISSIONERS—Every Saturday at 3.00 P. M., and the first day of each month at 11.00 A. M., except when it occurs on Sunday, then they meet the following day.

OFFICERS AND SALARIES PAID THEM IN 1894.

| | |
|--|-----------|
| Commissioners—Wm. Hardwick | \$ 900 00 |
| C. J. Brown..... | 900 00 |
| T. W. Shacklett | 900 00 |
| Secretary and Treasurer—Wm. Himrod..... | 1,916 66 |
| Assistant Secretary Geo. C. Gensheimer..... | 1,390 00 |
| Book-Keepers—John Kolb | 1,030 00 |
| R. H. Bear..... | 910 00 |
| W. W. Todd | 350 00 |
| Clerk—M. L. Whitley..... | 635 00 |
| Inspectors—John D. Spafford | 755 00 |
| Wm. McCleery | 755 00 |
| P. F. Weinheimer..... | 755 00 |
| Meter Taker—Perry E. Thurber | 755 00 |
| Superintendent of Street Work—R. T. Walker..... | 1,200 00 |
| Foremen of Street Work—Fred Simons, per day..... | 2 50 |
| Fred D. Gross, per day..... | 2 50 |
| Chief Engineer—F. A. Roth.. | 1,200 00 |
| Assistant Engineers—Geo. R. Miller | 900 00 |
| John Kelly..... | 900 00 |
| Firemen—R. W. Simons | 600 00 |
| Joseph Burns..... | 600 00 |
| Jacob Mullen | 600 00 |
| Watchman at Pumping Station—Michael Flynn..... | 600 00 |
| Janitor at Pumping Station—Nathan Block..... | 540 00 |
| Keeper of Reservoir—Samuel Phister..... | 420 00 |
| Janitress—Mrs. Matilda Sager..... | 144 00 |

ANNUAL REPORT.

To the Mayor, Select and Common Councils of the City of Erie, Pa.:

GENTLEMEN:—We herewith present you the report of our official actions for the year 1894:

The Construction Account, you will notice, is somewhat larger than usual, the principal item of which is the amount paid for the Worthington 12,000,000 gallon pumping engine. As stated in the report of 1893, this engine had been accepted by us on the 6th day of January last, at which time we paid one-half of the contract price and had six and twelve months respectively on the deferred payments with interest. It affords us much pleasure to be able to report that each of these payments were paid several months before they matured, thus saving interest.

At this point we beg to state that the pump has met our most sanguine expectations in every particular. The city is to be congratulated on having so fine a piece of mechanism in its possession.

The extension of mains was but 2,060 8-12 feet more than that of the preceding year, making a total of 89 miles 199 5-12 feet of mains now laid and in active service.

Connections made were less in number and length than last year, making a total of 34 miles 4,760 2-12 feet. We now have all told of mains and connections 123 miles 4,859 7-12 feet.

There has been an increase of 35 fire hydrants, making 479 in use December 31, 1894.

The receipts for water this year are about the same as that of the previous year. This is owing largely to the general business depression that has prevailed throughout the entire country, which has had the effect to check the natural growth of the city

as well as to lessen the consumption of water by some of our manufacturers. Added to this the reduction in the meter rates to a flat rate of six cents per thousand gallons made at the beginning of the year, which alone has caused a loss in the revenue of the Department upwards of Five Thousand Dollars.

Cost of Maintenance Department is somewhat larger than formerly, the greater part of the increase being caused by extensive repairs on the Stand Pipe.

It having come to us from various sources that there was some doubt as to the safety of the Stand Pipe, we desire to say that after thorough investigation and consultation with competent engineers, we were fully persuaded that there were no grounds for apprehension.

It was found advisable to add six feet to the iron part of the Stand Pipe, on which was placed an ornamental finial of six feet, making the increased height twelve feet. The total elevation of the Stand Pipe above the zero level of the bay is now 259.65 feet.

The plaster on the outside of the brick work of the Stand Pipe was entirely removed, all defective brick taken out and new ones inserted, after which it was coated with the best quality of imported cement. It is intended to paint this next spring.

All buildings at the Pumping Station were painted outside and in; the grounds belonging to the same put in complete order, and we may add that with proper patriotic feelings we caused in July last the erection of a 30-foot flag-staff on one of the engine houses, from which floats the stars and stripes on holidays and other important occasions.

Without undue presumption we are perfectly safe in the claim that the city of Erie has, for its size, the best equipped pumping plant in the country.

The fence and keeper's house at the Reservoir were overhauled and thoroughly repaired, and present a greatly improved appearance.

We may say that the entire Water Works property is in first-class condition, and at the close of business, December 31, 1894, we did not owe one dollar and had a balance in the hands of the

Treasurer of the city of Erie of \$18,887.00, and accounts in the sum of \$6,646.74, making the total personal resources \$25,533.74.

It is intended early next spring to begin work on the long-talked-of project of building an in-take pipe across the harbor, through the peninsula and out into the open water of Lake Erie.

To do what should be done to give the city first-class water would require an outlay of \$300,000.00. This sum is not at our command; therefore we will do the best possible with our resources. From all the data we have, we believe that we can build the in-take pipe over to "Big Bend" this year, paying for the same with the money now on hand and our earnings during the year 1895, together with that of the January quarter of 1896. This work is directly in line with and forms a part of the general plan of the in-take pipe to the lake, as prepared by our engineer from surveys made by him, which plans and specifications are on file at this office. Our plans and specifications were referred to Rudolph Hering, C. E., of New York city, who is recognized as standing at the head of his profession as a sanitary and hydraulic engineer, whose services have been called into requisition not only in the United States but also in foreign countries. It is gratifying to us to be able to state that he considers the plans entirely feasible, as reference to his report appended hereto will fully show. It may be stated, however, that while the original plan contemplated the use of steel pipe, it will be noted that while Mr. Hering inclines to that metal, he does not give it his unqualified endorsement; and we have since found out upon investigation at Milwaukee and other points where extensive works of this character have been constructed that the testimony is largely in favor of cast iron pipe, and it is altogether likely its use will be adopted in our work here.

We regret exceedingly that we are unable to push this work to a finish at this time, but believe that the part now contemplated will give our citizens a far superior quality of water to that now furnished; and if your honorable bodies should provide for the building of the much-talked-of intercepting sewer, which this Department has always been on record as considering a necessity, sufficient time would then be afforded for the accumulation of means to complete this work, and also to allow us revenue neces-

sary to lay larger distributing mains, thus enabling us to keep pace with the growth of the manufacturing industries of our city; also to provide better general fire protection.

We desire to thank you for placing at our disposal the room now occupied by the Honorable Select Council. The constantly increasing business of the Department has made larger office quarters necessary, and this addition is duly appreciated.

The day is not far distant when it will be an absolute necessity to have additional boilers, and the experience of the past twelve months has demonstrated that it is unwise to depend on a supply of fuel furnished in car-load lots from day to day. Storing capacity for 3,000 to 4,000 tons of fuel should be provided for in the near future, and we trust your honorable bodies will favorably consider our application of September 24, 1894, for the five (5) water lots lying immediately east of the Pumping Station for the purpose of erecting new boiler house and buildings for the storage of coal in large quantities.

Respectfully submitted,

WM. HARDWICK,
C. J. BROWN,
T. W. SHACKLETT,

Commissioners of Water Works in the City of Erie.

**Monthly Receipts from all Sources During the Year
Ending December 31, 1894.**

| MONTH. | ASSESSMENT. | METER. | SPECIAL. | PLUMBING. | BUILDING. | TOTAL. |
|----------------|---------------------|---------------------|------------------|-------------------|-----------------|---------------------|
| January. | \$ 17,877 55 | \$ 4,815 43 | \$ 16 92 | \$ 81 52 | \$ 32 58 | \$ 22,824 00 |
| February | 3,556 96 | 911 96 | 4 28 | 16 31 | 141 59 | 4,631 10 |
| March... | 562 14 | 252 08 | 2 70 | 276 39 | 35 23 | 1,128 54 |
| April.... | 18,426 51 | 4,713 12 | 23 21 | 54 74 | 88 89 | 23,306 47 |
| May..... | 2,309 10 | 115 93 | 29 92 | 70 51 | 77 11 | 2,602 57 |
| June..... | 538 30 | 562 34 | 30 37 | 21 48 | 123 59 | 1,276 08 |
| July..... | 19,798 27 | 5,445 67 | 22 92 | 136 11 | 37 43 | 25,440 40 |
| August.. | 1,982 07 | 86 87 | 29 25 | 262 51 | 66 95 | 2,427 65 |
| Septem'r | 331 19 | ..... | 17 76 | 80 46 | 42 56 | 471 97 |
| October.. | 19,222 67 | 4,408 42 | 22 22 | 14 07 | 68 16 | 23,735 54 |
| Nov..... | 2,666 66 | 1,313 15 | 11 25 | 94 68 | 55 82 | 4,141 56 |
| Dec..... | 175 26 | 714 72 | 21 75 | 955 45 | 33 11 | 1,900 29 |
| Total.. | \$ 87,446 68 | \$ 23,339 69 | \$ 232 55 | \$2,064 23 | \$803 02 | \$113,886 17 |

**Receipts from Each Ward During the Year Ending
December 31, 1894.**

| WARD. | ASSESSMENT. | METER. | SPECIAL. | PLUMBING. | BUILDING. | TOTAL. |
|----------------|---------------------|---------------------|------------------|-------------------|-----------------|---------------------|
| First .. | \$ 12,173 83 | \$ 3,013 63 | \$ 40 46 | \$ 27 16 | \$ 68 29 | \$ 15,323 37 |
| Second.. | 19,589 36 | 11,646 00 | 39 94 | 947 83 | 138 60 | 32,361 73 |
| Third ... | 21,768 62 | 3,638 57 | 38 42 | 593 19 | 195 83 | 26,234 63 |
| Fourth .. | 16,804 43 | 698 42 | 56 25 | 241 50 | 246 70 | 18,047 30 |
| Fifth ... | 7,160 68 | 3,608 17 | 30 45 | 14 57 | 77 14 | 10,891 01 |
| Sixth.... | 9,123 02 | 680 58 | 8 67 | 38 62 | 69 01 | 9,919 90 |
| Seventh. | 826 74 | 54 32 | 18 36 | 201 36 | 7 45 | 1,108 23 |
| Total.. | \$ 87,446 68 | \$ 23,339 69 | \$ 232 55 | \$2,064 23 | \$803 02 | \$113,886 17 |

Cash Account of Secretary and Treasurer of Commissioners of Water Works in the City of Erie. for the Year Ending December 31, 1894.

| Month. | Receipts. | Deposited with Treasurer City of Erie. | Balance in Office at Close of Business each Month |
|--------------------|---------------------|--|---|
| January | \$ 22,824 00 | \$ 21,275 63 | \$ 1,548 37 |
| February | 4,631 10 | 6,097 56 | 81 91 |
| March | 1,128 54 | 1,081 38 | 129 07 |
| April | 23,306 47 | 19,919 82 | 3,515 72 |
| May | 2,602 57 | 5,373 98 | 744 31 |
| June | 1,276 08 | 1,892 23 | 128 16 |
| July | 25,440 40 | 22,645 83 | 2,922 73 |
| August | 2,427 65 | 5,235 16 | 115 22 |
| September | 471 97 | 484 23 | 102 96 |
| October | 23,735 54 | 21,238 88 | 2,599 62 |
| November | 4,141 56 | 6,683 06 | 58 12 |
| December | 1,900 29 | 1,958 41 | ..... |
| Total | \$113,886 17 | \$113,886 17 | |

Statement of Account With Treasurer of the City of Erie, Pa., for the Year Ending December 31, 1894.

| Month. | Received from Secretary and Treasurer Commissioners of Water Works. | Paid on Warrants of Commissioners of Water Works. | Monthly Balances. |
|------------------------|---|---|-------------------|
| Balance from 1893..... | \$ 21,296 17 | | |
| January | 21,275 63 | \$ 28,394 83 | \$ 14,176 97 |
| February | 6,097 56 | 14,817 24 | 5,457 29 |
| March | 1,081 38 | 5,351 25 | 1,187 42 |
| April | 19,919 82 | 12,658 56 | 8,448 68 |
| May | 5,373 98 | 3,712 33 | 10,110 33 |
| June | 1,892 23 | 10,296 27 | 1,706 29 |
| July | 22,645 83 | 9,110 75 | 15,241 37 |
| August | 5,235 16 | 7,371 72 | 13,104 81 |
| September | 484 23 | 5,677 52 | 7,911 52 |
| October | 21,238 88 | 4,359 68 | 24,790 72 |
| November | 6,683 06 | 6,686 31 | 24,787 47 |
| December | 1,958 41 | 7,858 88 | 18,887 00 |
| Total | \$135,182 34 | \$116,295 34 | |

Amount of Water Rents Collected Each Year, with the Increase and Decrease Since the Commencement of the Works.

| | AMOUNT REC'D. | INCREASE. | DECREASE. |
|---|------------------------|-------------|-------------|
| From Jan. 1, 1869, to Dec. 31, 1869.... | \$ 4 264 47 | ..... | ..... |
| " " 1870, to " 1870.... | 9,237 30 | \$ 4,972 83 | ..... |
| " " 1871, to " 1871.... | 18,138 08 | 8,900 78 | ..... |
| " " 1872, to " 1872.... | 21,652 68 | 3,514 60 | ..... |
| " " 1873, to " 1873.... | 25,560 40 | 3,907 72 | ..... |
| " " 1874, to " 1874.... | 27,938 90 | 2,378 50 | ..... |
| " " 1875, to " 1875.... | 29,639 38 | 1,700 48 | ..... |
| " " 1876, to " 1876.... | 31,048 76 | 1,409 38 | ..... |
| " " 1877, to " 1877.... | 32,276 57 | 1,227 81 | ..... |
| " " 1878, to " 1878.... | 29,636 01 | ..... | \$ 2,640 56 |
| " " 1879, to " 1879.... | 33,343 20 | 3,707 19 | ..... |
| " " 1880, to " 1880.... | 37,385 00 | 4,041 80 | ..... |
| " " 1881, to " 1881.... | 40,385 87 | 3,000 87 | ..... |
| " " 1882, to " 1882.... | 43,818 73 | 3,432 86 | ..... |
| " " 1883, to " 1883.... | 48,269 89 | 4,451 16 | ..... |
| " " 1884, to " 1884.... | 51,852 78 | 3,582 89 | ..... |
| " " 1885, to " 1885.... | 53,550 35 | 1,697 57 | ..... |
| " " 1886, to " 1886.... | 58,725 00 | 5,174 65 | ..... |
| " " 1887, to " 1887.... | 67,121 92 | 8,396 92 | ..... |
| " " 1888, to " 1888.... | 73,197 03 | 6,075 11 | ..... |
| " " 1889, to " 1889.... | 81,110 68 | 7,913 65 | ..... |
| " " 1890, to " 1890.... | 87,279 96 | 6 169 28 | ..... |
| " " 1891, to " 1891.... | 93,891 55 | 6,611 59 | ..... |
| " " 1892, to " 1892.... | 105,527 03 | 11,635 48 | ..... |
| " " 1893, to " 1893.... | 111,247 43 | 5,720 40 | ..... |
| " " 1894, to " 1894.... | 111,821 94 | 574 51 | ..... |
| Total | \$ 1,327,920 91 | | |

DISBURSEMENTS.

| Leger Folio | Department. | Account. | For the Year 1894. | | | From be- ginning of Works to December 31, 1894. |
|-------------|---------------|-------------------------------|--------------------|-----------|-----------|---|
| | | | Labor. | Material. | Total. | |
| 1 | Construction. | Ad. Books, Sta. and Prtg. | a\$ 42 95 | \$ 14 28 | \$ 57 21 | \$ 204 23 |
| 2 | | Buildings and Grounds | | | | 86,647 49 |
| 4 | | Boilers | a | | | 3,964 13 |
| 7 | | Civil Engineering | | | | 8,554 80 |
| 13 | | Connections | 2,214 87 | 1,351 44 | 3,566 31 | 101,966 12 |
| 24 | | Drinking Fountains | d 139 49 | 520 90 | 660 39 | 660 39 |
| 26 | | Engines and Boilers | | | | 93,336 61 |
| 27 | | Engines | a | | | 15 05 |
| 28 | | Engine No. 4. | b 1,125 03 | 46,580 67 | 47,705 70 | 48,353 18 |
| 720 | | Engine House No. 3. | b 42 23 | 1,004 34 | 1,046 57 | 21,401 94 |
| 32 | | Engine Room, Fur. and Fix. | 1 01 | 41 77 | 42 78 | 1,388 86 |
| 34 | | Expense | a 144 30 | 4 99 | 149 29 | 189 31 |
| 36 | | Electric Light Plant | a | | | 722 98 |
| 39 | | Fire Hydrants | a 289 89 | 1,130 38 | 1,420 27 | 24,010 78 |
| 45 | | Fuel | a 63 | 26 21 | 26 84 | 122 51 |
| 47 | | Gas Well | | | | 8,148 59 |
| 51 | | Horse, Wagon and Cartage. | 79 83 | 274 41 | 354 24 | 3,773 81 |
| 53 | | Inlet Pipe No. 1 | | | | 49,474 30 |
| 54 | | Inlet Pipe No. 2 | b 1 14 | 47 09 | 48 23 | 8,019 38 |
| 55 | | Interest and Discount | | | | 99,420 95 |
| 56 | | Light—Oil, Lamps, Wicks, etc | a 50 | 20 55 | 21 05 | 102 99 |
| 59 | | Lowering Mains | | | | 584 31 |
| 66 | | Mains and Branches | 6,325 38 | 11,083 61 | 17,408 99 | 496,306 00 |
| 85 | | Main, 30-inch. | | | | 75,955 61 |
| 89 | | Meters | 246 56 | 105 02 | 442 18 | 15,210 26 |
| 100 | | Office Furniture and Fixtures | a 3 12 | 129 33 | 132 45 | 953 50 |
| 102 | | Oil and Tallow | b | | | 2 86 |
| 104 | | Paving and Street Repairs | b | | | 1 07 |
| 109 | | Park Fountains | | | | 3,244 68 |
| 110 | | Railroad Switch and Scales | | | | 2,918 92 |
| 111 | | Reservoir | | | | 123,150 83 |
| 114 | | Stop Valves | 176 03 | 1,078 05 | 1,254 08 | 29,417 03 |
| 117 | | Superintendent's Stores | | | | 217 05 |
| 119 | | Superintendent's Expense | a | | | 52 82 |
| 122 | | Shop Rent | a 2 74 | 113 31 | 116 05 | 421 93 |
| 126 | | Tools and Repairs | 104 49 | 181 73 | 286 22 | 1,031 52 |
| 130 | | Telephone and Telegraph | a 04 | 1 61 | 1 65 | 11 09 |
| 136 | Maintenance. | Adv. Books, Sta. and Prtg. | a 43 35 | 31 03 | 74 38 | 179 29 |
| 140 | | Buildings and Grounds | a 1,883 76 | 830 71 | 2,714 50 | 5,728 06 |
| 142 | | Boilers, to Dec. 31, 1892. | | | | 18,365 28 |
| 143 | | Boiler No. 1. | c 31 38 | 204 42 | 235 80 | 412 17 |
| 144 | | Boiler No. 2. | c 31 45 | 207 00 | 238 05 | 421 88 |
| 145 | | Boiler No. 3. | c 31 13 | 194 04 | 225 17 | 402 50 |
| 146 | | Boiler No. 4. | c 33 06 | 273 86 | 306 92 | 469 76 |
| 147 | | Boiler No. 5. | c 22 46 | 98 01 | 120 47 | 181 38 |
| 148 | | Boiler No. 6. | c 21 00 | 61 36 | 82 96 | 167 82 |
| 149 | | Boiler House | c 183 65 | 284 48 | 468 43 | 469 72 |
| 155 | | Connections | 913 55 | 635 95 | 1,549 50 | 5,002 25 |
| 170 | | Drinking Fountains | d 9 46 | 20 | 9 66 | 9 66 |
| 174 | | Engines, to Dec. 31, 1892. | | | | 13,402 04 |
| 175 | | Engine No. 1. | c 59 | 24 23 | 24 82 | 58 11 |
| 178 | | Engine No. 2. | c 58 59 | 24 25 | 24 84 | 89 60 |
| 181 | | Engine No. 3. | c 38 53 | 111 00 | 149 53 | 240 98 |
| 184 | | Engine No. 4. | d 3 28 | 135 00 | 138 88 | 138 88 |
| 197 | | Engine House No. 1. | c 201 39 | 708 81 | 910 20 | 990 71 |
| 200 | | Engine House No. 2. | c 84 27 | 387 88 | 472 15 | 616 13 |
| 203 | | Engine House No. 3. | c 54 43 | 185 03 | 249 46 | 320 91 |
| 205 | | Engineer's Stores | b | | | 1 05 |
| 208 | | Engine Room, Fur. and Fix. | a 3 28 | 136 20 | 139 49 | 168 02 |

DISBURSEMENTS—Continued.

| Department | Account. | For the Year 1894. | | | From be- ginning of Works to December 31, 1894. |
|-------------|---------------------------------|--------------------|-------------|--------------|---|
| | | Labor. | Material. | Total. | |
| | Expense..... | a \$ 144 52 | \$ 12 90 | \$ 157 42 | \$ 182 49 |
| | Electric Light Plant..... | b 1 70 | 70 54 | 72 24 | 118 20 |
| | Fire Hydrants..... | a 308 15 | 101 35 | 409 50 | 1,138 77 |
| | Fuel..... | a 63 | 26 19 | 26 82 | 76 64 |
| | Horse, Wagon and Cartage..... | a 79 87 | 270 50 | 356 37 | 3,779 15 |
| | Inlet Pipe No. 1..... | a | | | 111 80 |
| | Light—Oil, Lamps, Wicks, etc. | a 30 | 16 06 | 16 45 | 49 41 |
| | Mains and Branches..... | a 563 54 | 53 64 | 617 18 | 17,176 56 |
| | Main, 30-inch..... | a | | | 899 33 |
| | Meters..... | a 135 15 | 352 07 | 487 22 | 4,316 05 |
| | Office Furniture and Fixtures | a 1 85 | 76 62 | 78 47 | 100 75 |
| | Oil and Tallow..... | b | | | 2 24 |
| | Paving and Street Repairs..... | b | | | 449 94 |
| | Railroad Switch and Scales..... | a | | | 375 68 |
| | Reservoir..... | a 617 50 | 614 69 | 1,232 49 | 23,547 94 |
| | Stand Pipe..... | c 2,181 83 | 1,167 20 | 3,349 03 | 3,349 80 |
| | Stop Valves..... | a 334 76 | 80 22 | 414 98 | 4,170 11 |
| | Superintendent's Stores..... | a | | | 396 52 |
| | Superintendent's Expense..... | a | | | 52 56 |
| | Shop Rent..... | a 2 73 | 113 07 | 115 80 | 421 69 |
| | Tools and Repairs..... | a 108 60 | 256 68 | 365 28 | 4,371 39 |
| | Waste and Packing..... | b | | | 22 18 |
| Operating. | Adv., Books, Sta. and Prtg..... | a 51 12 | 352 72 | 403 84 | 663 59 |
| | Buildings and Grounds..... | b 1,167 53 | | 1,167 53 | 2,413 96 |
| | Engineers and Firemen..... | a 5,098 41 | | 5,098 41 | 111,851 83 |
| | Engineer's Stores..... | a | | | 2,348 57 |
| | Expense..... | a 40 73 | 140 89 | 181 62 | 540 46 |
| | Electric Light Plant..... | b 65 | 2 00 | 2 05 | 31 60 |
| | Fire Hydrants..... | b 90 87 | | 90 87 | 91 07 |
| | Fuel..... | b 108 15 | 4,477 69 | 4,585 84 | 149,809 84 |
| | Horse, Wagon and Cartage..... | d 2,328 46 | 36 42 | 37 30 | 37 30 |
| | Inspectors..... | a 3 85 | 159 30 | 163 15 | 1,153 35 |
| | Insurance..... | a 44 | 18 22 | 18 66 | 240 74 |
| | Light—Oil, Lamps, Wicks, etc. | b 775 42 | 5 51 | 780 93 | 1,219 93 |
| | Meters..... | b 20 11 | 892 43 | 852 54 | 10,596 95 |
| | Oil and Tallow..... | b 430 28 | 5 76 | 436 04 | 1,321 84 |
| | Reservoir..... | b 1 18 | 48 87 | 50 05 | 407 12 |
| | Rent of Office..... | a 2 24 | 92 67 | 94 91 | 230 71 |
| | Tools and Repairs..... | a 8 93 | 389 57 | 378 50 | 1,479 33 |
| | Taxes—State, County & School | a 3 91 | 161 72 | 165 63 | 515 60 |
| | Telephone and Telegraph..... | a 7 32 | 303 14 | 310 46 | 4,687 89 |
| | Waste and Packing..... | a 18 74 | 775 87 | 794 71 | 1,011 94 |
| Accounting. | Water Rents Returned..... | a 8 69 | 350 79 | 368 48 | 8,457 17 |
| | Expense..... | b 2 83 | 16 37 | 19 20 | 14,741 27 |
| | Horse, Wagon and Cartage..... | b | | | 17 80 |
| | Postage..... | a 9 41 | 389 64 | 399 05 | 5,232 96 |
| | Salaries..... | a 6,559 23 | | 6,559 23 | 161,258 81 |
| Sundries. | City of Erie Sink'g Fund Com. | a | | | 105,500 00 |
| | City of Erie..... | a | | | 6 41 |
| Legal. | Court Costs..... | a 368 15 | | 368 15 | 478 40 |
| | Counsel Fees..... | a 53 77 | | 53 77 | 3,158 53 |
| | Expense..... | a | | | 89 02 |
| | Totals..... | \$ 36,183 67 | \$80,111 67 | \$116,295 34 | \$2,019,573 04 |

a Accounts started in 1891.

b Accounts started in 1892.

c Accounts started in 1893.

d Accounts started in 1894.

RECAPITULATION.

| Department. | For the Year 1894. | | | | From beginning of Works to December 31, 1894. |
|-------------------|--------------------|--------------|--------------|--------------|---|
| | Pro Rata. | Labor. | Material. | Total. | |
| Construction..... | 6427043 + | \$ 10,960 23 | \$ 63,800 27 | \$ 74,750 50 | \$1,311,780 97 |
| Maintenance..... | 1361650 + | 8,072 74 | 7,762 72 | 15,835 46 | 113,911 40 |
| Operating..... | 1542753 | 10,158 62 | 7,782 88 | 17,941 50 | 294,960 80 |
| Accounting..... | 0631664 | 6,580 16 | 765 80 | 7,345 96 | 189,687 51 |
| Sundries..... | | | | | 105,506 41 |
| Legal..... | 0036280 + | 421 92 | | 421 92 | 3,725 95 |
| Totals..... | 99000690 | \$ 36,183 67 | \$ 80,111 67 | \$116,295 34 | \$2,019,573 04 |

1894. Statement of Accounts with City of Erie, Pa. 1894.

| CITY OF ERIE, PA. | | DR.* |
|----------------------------------|--------------|-------------------------|
| WATER—Fire Hydrants..... | \$ 46,200 00 | |
| Park Fountains..... | 1,251 05 | |
| Flushing Sewers..... | 1,150 00 | |
| Lake Front Park, 3 years... | 216 00 | |
| City Hall..... | 203 00 | |
| Engine Houses..... | 165 95 | |
| East Park, 3 years..... | 150 00 | |
| West Park, 3 years..... | 150 00 | \$49,486 00 |
| INTEREST—From Second Nat'l Bank | | |
| Balances, Oct. 1, 1893, to | | |
| April 1, 1894..... | 157 46 | |
| April 1, 1894, to Oct. 1, | | |
| 1894..... | 87 24 | 244 70 |
| Balance..... | | 685,677 06 \$735,407 76 |
| CREDITS. | | |
| BALANCE—December 31, 1893..... | 692,648 83 | |
| INTEREST—On same to December 31, | | |
| 1894..... | 41,558 93 | |
| RENT—Of Offices one year..... | 1,200 00 | \$735,407 76 |
| Balance..... | | \$685,677 06 |

Printed and Published by J. H. B. Co., Erie, Pa.

Statement of Resources and Liability December 31, 1904.

RESOURCES.

PLANT NORTH OF FRONT STREET -Buildings and Grounds,
including Piers.

Engine House No. 3, from January 1, 1892.....

\$105,794 69
21,591 35 \$127,386 04

Boilers from January 1, 1891.....

Engines and Boilers to January 1, 1891.....

Engine No. 4, from January 1, 1892.....

3,409 15
104,325 20
49,058 00 156,792 35

Electric Light Plant.....

Engine Room Furniture and Fixtures.....

Inlet Pipes - No. 1.....

No. 2 from January 1, 1892.....

55,568 44
9 619 02 65,187 46

Railroad Switch and Scales.....

3,262 09\$ 354,909 83

PLANT SOUTH OF FRONT STREET—Connections.....

Drinking Fountains from January 1, 1894.....

Fire Hydrants.....

Mains and Branches.....

\$543,385 26
83,327 29

110,265 67
669 64
25,725 65

Main, 30-inch.....

626,712 55

Meters.....

Stop Valves.....

16,155 50
32,141 11 811,670 12

Office Furniture and Fixtures.....

Reservoir.....

968 28

PERSONAL--Cash in hands of Treasurer of City of Erie.....

ACCOUNTS--Assessed.....

Meter.....

Plumbing.....

137,629 35 950,267 75
18,887 00 1,305,177 58

673 01
5,948 13

6,621 14
25 60

6,646 74 25,533 74 \$1,330,711 32

LIABILITIES.

ACCOUNTS - City of Erie, Pa.....

Advanced on Assessed.....

Balance.....

685,677 06
174 67

685,851 73
644,859 59 \$1,330,711 32

Pumping Engine Statistics for 1894.

The pumps are four in number. Nos. 1 and 2 are known as the Corish Bull Pumps. The diameter of each plunger is 20 $\frac{1}{4}$ inches, and each as a stroke of 10 feet. The capacity of each pump is estimated to be 55 gallons to each stroke. Pump No. 3 is a Gaskill Horizontal Compound Pumping Engine, having two H. P. cylinders 21 in. diameter, two L. P. cylinders 42 in. diameter, and two pumps 19 $\frac{1}{2}$ in. diameter, and all 5 in. stroke, of a guaranteed capacity of 5,000,000 gallons daily at a piston speed of 120 feet per minute against a head of 237 feet. Pump No. 4 is a Vorthington Horizontal Compound High Duty Engine, having two H. P. cylinders 33 in. diameter, two L. P. cylinders 66 in. diameter, and two pumps 29 in. diameter, and all 49 $\frac{1}{2}$ in. stroke, of a guaranteed capacity of 2,000,000 gallons daily at a piston speed of 128 feet per minute against a head of 260 feet. The Stand Pipe is 259.65 feet high. The Reservoir is early two miles from the Pumping Works, the bottom of which is 210 feet above the surface of the Bay, and the water has been maintained during the year at an average depth in the Reservoir of 25.10 feet.

| | No. 3. | | | No. 4. | | | Totals. | | |
|----|-----------|-------------|-----|---------------|----------|---------------|-----------|----------|----------------|
| | Days Run. | Gallons. | | Days Run. | Gallons. | | Days Run. | Gallons. | Daily Average. |
| 1. | 7 | 34,582,184 | 22 | 140,304,600 | 22 | 140,304,600 | 4,525,954 | 237.02 | |
| | | | 22 | 138,978,144 | 22 | 138,978,144 | 4,963,505 | 236.87 | |
| | | | 19 | 120,185,856 | 26 | 154,768,040 | 4,992,517 | 236.17 | |
| | | | 21 | 132,137,208 | 21 | 132,137,208 | 4,405,573 | 236.07 | |
| | | | 27 | 143,294,232 | 27 | 143,294,232 | 4,622,394 | 236.09 | |
| | | | 30 | 150,435,456 | 30 | 150,435,456 | 5,014,515 | 235.73 | |
| | 4 | 19,699,680 | 27 | 162,255,984 | 31 | 181,955,664 | 5,869,537 | 236.16 | |
| | | | 31 | 177,025,296 | 31 | 177,025,296 | 5,710,493 | 236.71 | |
| | 7 | 33,216,092 | 26 | 128,368,704 | 33 | 161,584,796 | 5,386,159 | 236.83 | |
| | 4 | 12,978,056 | 29 | 132,807,888 | 33 | 145,785,944 | 4,702,772 | 236.98 | |
| | 3 | 17,034,108 | 27 | 123,335,016 | 30 | 140,369,124 | 4,678,970 | 237.21 | |
| | 12 | 61,145,630 | 19 | 88,812,384 | 31 | 149,958,014 | 4,837,355 | 237.26 | |
| 1. | 37 | 178,655,750 | 300 | 1,637,940,768 | 337 | 1,816,596,518 | 4,976,976 | †236.59 | |

Engines Nos. 1 and 2 were not used in 1891.

The regular employes at the Pumping Works are one chief engineer, two assistant engineers, three firemen, one watchman and one janitor. The chief engineer stands a watch of five hours, from 7 to 12 every forenoon; the assistants divide the remainder of each day equally between them; each one of the firemen stands a watch of eight hours. Besides ringing, the firemen unload the coal from the cars, except when two pumps are run, in which case they are assisted by the watchman or a laborer. The chief engineer gives ten hours daily to the service of the Commissioners of Water Works in the City of Erie, the hours when he is not on watch being employed in repairs, supervision, etc. In addition to standing their regular watch, the assistant engineers aid their superior officer in keeping the machinery in order. The watchman takes care of the grounds and does such other work as may be required of him. The janitor takes care of the buildings.

Pumping Engine Statistics for 1894.

The pumps are four in number. Nos. 1 and 2 are known as the Cornish Bull Pumps. The diameter of each plunger is 20 $\frac{1}{4}$ inches, and each has a stroke of 10 feet. The capacity of each pump is estimated to be 165 gallons to each stroke. Pump No. 3 is a Gaskill Horizontal Compound Pumping Engine, having two H. P. cylinders 21 in. diameter, two L. P. cylinders 42 in. diameter, and two pumps 19 $\frac{1}{2}$ in. diameter, and all 36 in. stroke, of a guaranteed capacity of 5,000,000 gallons daily at a piston speed of 120 feet per minute against a head of 237 feet. Pump No. 4 is a Worthington Horizontal Compound High Duty Engine, having two H. P. cylinders 33 in. diameter, two L. P. cylinders 66 in. diameter, and two pumps 29 in. diameter, and all 49 $\frac{1}{2}$ in. stroke, of a guaranteed capacity of 12,000,000 gallons daily at a piston speed of 128 feet per minute against a head of 260 feet. The Stand Pipe is 259.65 feet high. The Reservoir is nearly two miles from the Pumping Works, the bottom of which is 210 feet above the surface of the Bay, and the water has been maintained during the year at an average depth in the Reservoir of 25.10 feet.

| Months | No. 3. | | No. 4. | | Totals. | | Average Lift in Feet. | |
|-----------|-----------|-------------|-----------|---------------|-----------|---------------|-----------------------|--------|
| | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | | |
| Jan... | | | 22 | 140,304,600 | 22 | 140,304,600 | 4,525,954 | 237.02 |
| Feb... | | | 22 | 138,978,144 | 22 | 138,978,144 | 4,963,505 | 236.87 |
| Mar... 7 | | 34,582,184 | 19 | 120,185,856 | 26 | 154,768,040 | 4,992,517 | 236.17 |
| April... | | | 21 | 132,137,208 | 21 | 132,137,208 | 4,405,573 | 236.07 |
| May... | | | 27 | 143,294,232 | 27 | 143,294,232 | 4,622,394 | 236.09 |
| June... | | | 30 | 150,435,456 | 30 | 150,435,456 | 5,014,515 | 235.73 |
| July... 4 | | 19,699,680 | 27 | 162,255,984 | 31 | 181,955,664 | 5,869,537 | 236.16 |
| Aug... | | | 31 | 177,025,296 | 31 | 177,025,296 | 5,710,493 | 236.71 |
| Sep... 7 | | 33,216,092 | 26 | 128,368,704 | 33 | 161,584,796 | 5,386,159 | 236.83 |
| Oct... 4 | | 12,978,056 | 29 | 132,807,888 | 33 | 145,785,944 | 4,702,772 | 236.98 |
| Nov... 3 | | 17,034,108 | 27 | 123,335,016 | 30 | 140,369,124 | 4,678,970 | 237.21 |
| Dec... 12 | | 61,145,630 | 19 | 88,812,384 | 31 | 149,958,014 | 4,837,355 | 237.26 |
| Total, | 37 | 178,655,750 | 300 | 1,637,940,768 | 337 | 1,816,596,518 | 4,976,976 | 236.59 |

Engines Nos. 1 and 2 were not used in 1894.

The regular employees at the Pumping Works are one chief engineer, two assistant engineers, three firemen, one watchman and one janitor. The chief engineer stands a watch of five hours, from 7 to 12 every forenoon; the assistants divide the remainder of each day equally between them; each one of the firemen stands a watch of eight hours. Besides firing, the firemen unload the coal from the cars, except when two pumps are run, in which case they are assisted by the watchman or a laborer. The chief engineer gives ten hours daily to the service of the Commissioners of Water Works in the City of Erie, the hours when he is not on watch being employed in repairs, supervision, etc. In addition to standing their regular watch, the assistant engineers aid their superior officer in keeping the machinery in order. The watchman takes care of the grounds and does such other work as may be required of him. The janitor takes care of the buildings.

| | 280 | \$ 245.84 | 331 | \$ 292.50 | 730 | \$ 613.17 | 624 | \$ 549.50 | 35 | \$ 32.70 | 116 | \$ 97.84 | 2 | \$ 3.00 | 2132 | \$ 1,704.34 |
|----------------------|------|-------------|------|-------------|------|-------------|------|-------------|------|------------|------|------------|-----|---------|----------|-------------|
| Hand Basins | | | | | | | | | | | | | | | | |
| Ice Cream Parlors | | | | | | | | | | | | | | | | |
| Lodging Rooms | 216 | 207.34 | 325 | 323.00 | 470 | 470.00 | 107 | 107.00 | 12 | 42.00 | 31 | 31.00 | | | 1295 | 1,276.13 |
| Laundries | | 5.00 | 3 | 15.00 | 15 | 87.00 | 11 | 48.00 | 7 | 30.00 | 7 | 30.00 | | | 71 | 372.00 |
| Meat Markets | 11 | 48.00 | 20 | 111.00 | 15 | 87.00 | 11 | 48.00 | 7 | 30.00 | 7 | 30.00 | | | 2 | 8.00 |
| Marble Works | | 5.00 | | | | | | | | | | | | | 5 | 21.00 |
| Milk Depots | 1 | 5.00 | | | 1 | 5.00 | 3 | 11.00 | | | | | | | 1 | 15.00 |
| Museums | | | | | 1 | 15.00 | | | | | | | | | 2 | 15.00 |
| Opera Houses | | | | | 1 | 5.00 | | | | | | | | | 380 | 1,148.23 |
| Offices | 64 | 176.23 | 92 | 291.00 | 95 | 329.00 | 74 | 337.00 | 1 | 3.00 | 4 | 12.00 | | | 11 | 120.00 |
| Printing Offices | 4 | 48.00 | 1 | 30.00 | 3 | 35.00 | 3 | 13.00 | | | | | | | 40 | 201.67 |
| Public Halls | 8 | 40.00 | 6 | 30.00 | 14 | 71.67 | 8 | 40.00 | 2 | 10.00 | 2 | 10.00 | | | 10 | 50.00 |
| Photograph Rooms | | | 4 | 20.00 | 4 | 20.00 | | 5.00 | | | | | | | | |
| Passenger Depots | | | | | | | | | | | | | | | | |
| Stores | 64 | 245.00 | 132 | 302.00 | 173 | 770.00 | 78 | 311.00 | 37 | 117.00 | 37 | 125.00 | | | 521 | 2,000.00 |
| Saloons | 7 | 35.00 | 33 | 165.00 | 28 | 140.00 | 12 | 60.00 | 11 | 55.00 | 7 | 35.00 | | | 90 | 407.50 |
| Schools | 955 | 85.76 | 1550 | 155.00 | 1698 | 169.80 | 624 | 62.40 | 721 | 72.10 | 825 | 78.50 | | | 6853 | 623.56 |
| Schools, Sabbath | 1 | 3.00 | | | 2 | 10.00 | | | | | | | | | 3 | 13.00 |
| Slaughtering Houses | | | | | | | | | | | | | | | 3 | 13.00 |
| Sprinklers, Hydrant | | | | | | | | | | | | | | | 294 | 1,225.74 |
| " " " " " " " " | 44 | 162.32 | 39 | 149.45 | 61 | 241.50 | 71 | 330.80 | 32 | 127.85 | 47 | 213.82 | | | 201 | 5,326.94 |
| " " " " " " " " | 200 | 625.85 | 243 | 808.10 | 432 | 1,339.64 | 349 | 1,113.94 | 168 | 562.00 | 251 | 855.40 | | | 376 | 1,651.66 |
| " " " " " " " " | 45 | 136.35 | 50 | 188.60 | 100 | 407.34 | 88 | 443.85 | 40 | 138.75 | 46 | 178.47 | | | 458 | 1,784.35 |
| " " " " " " " " | 55 | 204.70 | 56 | 217.10 | 121 | 444.26 | 155 | 648.57 | 37 | 130.70 | 32 | 130.86 | | | 968 | 1,267.95 |
| " " " " " " " " | 48 | 174.00 | 83 | 271.20 | 70 | 241.95 | 42 | 150.80 | 54 | 188.90 | 69 | 221.10 | | | 138 | 448.12 |
| " " " " " " " " | 15 | 45.60 | 28 | 98.25 | 38 | 120.40 | 36 | 114.50 | 10 | 29.52 | 11 | 41.85 | | | 3277 | 11,694.76 |
| " " " " " " " " | 407 | 1,410.82 | 499 | 1,730.70 | 822 | 2,655.00 | 741 | 2,602.76 | 336 | 1,175.72 | 459 | 1,644.32 | | | 1 | 30.00 |
| Adj. Lot. | | | | | | | | | | | | | | | 296 | 788.11 |
| Total Sprinkling | | | | | | | | | | | | | | | 4 | 28.00 |
| U. S. Str. Michigan | 35 | 91.44 | 57 | 169.00 | 102 | 321.00 | 52 | 186.00 | 6 | 25.00 | 14 | 40.67 | | | 125 | 448.00 |
| Urinals | | | | | | | | | | | | | | | 648 | 873.34 |
| Warehouses | 1 | 3.00 | 3 | 25.00 | 39 | 140.00 | 23 | 73.00 | 6 | 20.00 | 5 | 19.00 | | | 11 | 55.00 |
| Work Shops | 10 | 37.00 | 40 | 144.00 | 38 | 140.00 | 23 | 810.00 | 6 | 9.00 | 44 | 35.00 | | | 680 | 928.34 |
| Wash Tubs | 90 | 117.34 | 54 | 82.00 | 228 | 320.00 | 227 | 310.00 | 6 | 9.00 | 44 | 35.00 | | | 345 | 1,125.50 |
| " " " " " " " " | 2 | 10.00 | 2 | 10.00 | 4 | 20.00 | 3 | 15.00 | | | | | | | 840 | 803.50 |
| Revolving | 82 | 127.34 | 56 | 92.00 | 252 | 340.00 | 290 | 325.00 | 6 | 9.00 | 41 | 35.00 | | | 3494 | 10,347.82 |
| Total Wash Tubs | | | | | | | | | | | | | | | 4179 | 12,276.32 |
| Water Closets, S. C. | 52 | 176.00 | 51 | 171.50 | 119 | 386.00 | 94 | 284.00 | 9 | 38.00 | 20 | 60.00 | | | 18 | 50.00 |
| " " " " " " " " | 78 | 186.00 | 86 | 218.50 | 84 | 140.00 | 67 | 214.00 | 1 | 6.00 | 24 | 39.00 | | | 8 | 35.00 |
| " " " " " " " " | 490 | 1,397.82 | 663 | 2,079.50 | 1181 | 3,459.50 | 843 | 2,330.00 | 132 | 447.00 | 201 | 615.50 | | | 4 | 18.00 |
| " " " " " " " " | 620 | 1,750.82 | 800 | 2,469.50 | 1394 | 3,967.50 | 1004 | 2,628.00 | 142 | 449.00 | 245 | 714.50 | | | 19 | 55.00 |
| Total W. Closets | | | | | | | | | | | | | | | 1 | 3.00 |
| " " " " " " " " | | | | | | | | | | | | | | | 1 | 3.00 |
| Water Troughs | | | | | | | | | | | | | | | | |
| Water Motors | | | | | | | | | | | | | | | | |
| Yacht Mystic | | | | | | | | | | | | | | | | |
| Grand Totals | 4822 | \$12,446.51 | 7272 | \$19,941.79 | 9181 | \$21,820.00 | 6490 | \$17,390.73 | 2640 | \$7,246.87 | 3380 | \$9,248.26 | 189 | | \$965.78 | \$38,706.35 |

Main Pipes Laid in 1894.

| LOCATION. | SIZES. | | | | | REMARKS. |
|--|---------|---------|---------|---------|----------|---|
| | 1½ in. | 2 inch. | 4 inch. | 6 inch. | 12 inch. | |
| Front, bet. German and Parade | ft. in. | ft. in. | ft. in. | ft. in. | ft. in. | { 494 ⁶ ft ¾ in removed. |
| 2d, bet. Plum and Cascade | | | 516 | | | |
| 3d, bet. State and French | | | 526 | 3 | | |
| 3d, bet. Poplar and Liberty | | | | 262 | 9 | |
| 5th, " " " | | | 145 | 4 | | H. B. |
| 7th, " " " | | 381 | 6 | 14 | 10 | |
| 7th, bet. Cascade and Rasp'y | | | 7 | | | |
| 7th, bet. Poplar and Liberty | | | | 300 | 3 | |
| 8th, bet. Reed and Wayne | | | | 16 | | |
| 8th, " " " | | | | 194 | | |
| 9th, east of East Ave | | | 22 | 10 | | |
| 9th, bet. Cherry and Poplar | | 50 | 4 | | | |
| 9th, intersection 9th and Rasp. | | | | 359 | 6 | |
| 11th, bet. Liberty and Plum | | | | 39 | | |
| 12th, east of Liberty | | | 13 | 10 | | |
| 12th, cor. Sassafras | | | 26 | 180 | 10 | |
| 13th, east from French | | | | 135 | | |
| 14th, bet. State and French | | | | 200 | | |
| 14th, bet. French and Holland | | | 280 | | | { 125 ⁸ ft 1 in abandoned. |
| 14th, west of Reed | | | 7 | 4 | | |
| 18th, west of Cranberry | | | 102 | 5 | 1084 | |
| 19th, east of French | | | 156 | | | |
| 19th, west of Walnut | | | 9 | 2 | | |
| 20th, west of Peach | | | 9 | 9 | | |
| 21st, east of Cascade | | | 9 | 329 | | |
| 21st, east and west of Rasp'y | | | | 486 | | |
| 22d, west of Plum | | | | 329 | | |
| 23d, west of Cherry | | | | 170 | | |
| 23d, east from Warfel Ave. | | | | 109 | | { 694 ft 6 in taken out. |
| 24th, east of Reed | | | | 133 | | |
| 24th, west of Liberty | | | 9 | 6 | | |
| 26th, east and west | | | 815 | 226 | 1488 | |
| Warfel Ave. north of 23d | | | | 105 | | |
| East Ave. bet. 14th and 15th | | | 100 | 341 | | |
| Ross, bet. 4th and 5th | | | | 75 | 6 | |
| Wayne, bet 10th-11th, 11th-12th | | | | 414 | 4 | |
| Reed, bet. 10th-11th, 7th-8th, 6th-7th | | | | 476 | | |
| Ash, north of 3d | | | | 469 | | |
| Wallace, bet. 7th and 8th | | | | 390 | | { 203 ⁴ ft ¾ in abandoned. 251 ft 1 in abandoned. |
| Parade, bet. 4th-5th, 2d-3d | | | 72 | 262 | | |
| Holland, bet. 10th and 11th | | | | 340 | | |
| German, bet. 6th-7th, 2d-Front | | | 25 | 6 | 168 | |
| French, bet 19th-21st, 25th-26th | | | | 709 | 6 | |
| State | 56 | 6 | 66 | 1711 | 4 | |
| Myrtle, bet 25th-26th, 11th-12th | | | | 418 | | |
| Cherry, bet. 20th-22d, 5th-6th, 2d-3d | | | 167 | 7 | 974 | |
| Poplar, intersection of 8th | | | | 40 | 8 | |
| Liberty | | | 5 | 781 | 3 | |

Main Pipes Laid in 1894—Continued.

| LOCATION. | SIZES. | | | | | REMARKS. |
|---|---------|---------|---------|---------|----------|----------|
| | 1½ in. | 2 inch. | 4 inch. | 6 inch. | 12 inch. | |
| | ft. in. | ft. in. | ft. in. | ft. in. | ft. in. | |
| Plum, bet. 14th-16th, int. 8th..... | | | 12 4 | 329 1 | | |
| Cascade, bet. 3d-4th, int. 8th..... | | | 228 | 67 | | |
| Raspberry, bet. 6th-8th, 15th-18th, 9th-10th..... | | | | 2329 | | |
| Scott, east of Myrtle..... | | | 6 4 | | | |
| Hess Ave., north of 12th..... | | | 7 | | | |
| Brewster, bet. 11th and 12th..... | | | 7 7 | 290 | | |
| Railroad, north from 26th..... | | | 89 | | | |
| Total..... | 56 6 | 431 10 | 3456 7 | 15865 9 | 1488 7 | |

MAIN PIPES.

SUMMARY.

| | | |
|--------------|----------|----------------|
| Size. | | |
| 1½ inch..... | 56 6 | |
| 2 "..... | 431 10 | |
| 4 "..... | 3,456 7 | |
| 6 "..... | 15,865 9 | |
| 12 "..... | 1,488 7 | 21,299 3 feet. |

LESS PIPE REMOVED.

| | | |
|-------------|--------|---------------|
| ¾ inch..... | 697 10 | |
| 1 "..... | 376 8 | |
| 6 "..... | 694 | 1,768 6 feet. |

Total..... 19,530 9 feet.

Or 3 miles, 3,690 9 feet.

Amount laid to January 1, 1894..... 85 miles, 1,788 feet, 8 inches.

Total, December 31, 1894..... 89 miles, 199 feet, 5 inches.

Connections Made in 1894.

| | | |
|--------------------|-------|-------|
| Size. | | |
| $\frac{3}{4}$ inch | ..... | 399 |
| 1 " | ..... | 10 |
| $1\frac{1}{4}$ " | ..... | 1 |
| $1\frac{1}{2}$ " | ..... | 5 |
| 2 " | ..... | 11 |
| 4 " | ..... | 6 |
| 6 " | ..... | 3 |
| | | <hr/> |
| | | 435 |

LESS REMOVED.

| | | |
|--------------------|-------|-------|
| $\frac{3}{4}$ inch | ..... | 7 |
| $1\frac{1}{2}$ " | ..... | 1 |
| | | <hr/> |
| | | 8 |
| | | <hr/> |
| | | 427 |

8,398 feet.

Or 1 mile, 3,118 feet.

Previously reported to January 1, 1894 33 miles, 1,642 $\frac{1}{2}$ feet.Total, December 31, 1894 34 miles, 4,760 $\frac{1}{2}$ feet.

N. B.— In addition about 80 connections were renewed, in streets to be paved, and others which had given out.

| | | |
|---------------|-------|-------|
| Second street | ..... | 1 |
| Fourth " | ..... | 2 |
| Eighth " | ..... | 5 |
| Eleventh " | ..... | 10 |
| Thirteenth " | ..... | 1 |
| Nineteenth " | ..... | 1 |
| Parade " | ..... | 2 |
| Holland " | ..... | 2 |
| French " | ..... | 7 |
| State " | ..... | 20 |
| Peach " | ..... | 1 |
| Sassafras " | ..... | 2 |
| Chestnut " | ..... | 26 |
| | | <hr/> |
| Total | ..... | 80 |

Stop Valves Set, 1894.

| STREET. | LOCATION. | Size. | Style. | Remarks. |
|--------------------|---------------------------|-------|--------|------------------------|
| Second..... | East line of Cascade..... | 4 | Eddy. | |
| Third..... | " " Liberty..... | 4 | " | |
| Fifth..... | " " Raspberry..... | 2 | " | |
| "..... | " " Poplar..... | 6 | " | |
| Sixth..... | West " Reed..... | 6 | " | |
| Seventh..... | East " Raspberry..... | 6 | " | |
| Eighth..... | " " State..... | 4 | " | } Place of old one. |
| "..... | West " Wallace..... | 6 | " | |
| Tenth..... | " " Peach..... | 6 | " | } Place of old one. |
| Eleventh..... | East " Holland..... | 4 | " | |
| Fourteenth..... | West " French..... | 6 | " | |
| Sixteenth..... | " " German..... | 6 | " | |
| Eighteenth..... | " " Cranberry..... | 6 | " | |
| "..... | 930 ft. W. " "..... | 6 | " | |
| Twenty-first..... | West " Raspberry..... | 6 | " | |
| Twenty-second..... | " " Plum..... | 6 | " | |
| Twenty-third..... | East " Poplar..... | 6 | " | |
| Twenty-sixth..... | " " German..... | 12 | " | } 6 in. re- moved. |
| "..... | " " Parade..... | 12 | " | |
| "..... | West " Brown Ave..... | 4 | " | |
| Brewster..... | South " Eleventh..... | 6 | " | |
| East Ave..... | " " Twelfth..... | 6 | " | |
| Wayne..... | " " Tenth..... | 6 | " | |
| Wallace..... | " " Tenth..... | 4 | " | } Place of Ludlow. |
| Parade..... | North " Fifth..... | 6 | " | |
| German..... | South " Fifteenth..... | 6 | " | |
| Holland..... | North " Twelfth..... | 4 | " | } Place of Ludlow. |
| French..... | " " Twenty-sixth..... | 6 | " | |
| State..... | South " Second..... | 6 | " | |
| "..... | North " N. Park Row..... | 6 | " | |
| "..... | " " Fourth..... | 6 | " | |
| "..... | South " Fifth..... | 6 | " | |
| "..... | North " Third..... | 4 | " | |
| Myrtle..... | " " Twenty-sixth..... | 6 | " | |
| "..... | South " Sixteenth..... | 4 | " | |
| Chestnut..... | North " Tenth..... | 4 | " | } Place of Ludlow. |
| Walnut..... | " " Eighth..... | 4 | " | |
| Cherry..... | South " Twenty-first..... | 6 | " | |
| Liberty..... | North " Sixth..... | 6 | " | |
| Raspberry..... | " " Twelfth..... | 6 | " | |
| "..... | South " Sixth..... | 6 | " | |
| "..... | North " Eighth..... | 6 | " | |
| "..... | South " Ninth..... | 6 | " | |
| "..... | North " Fifteenth..... | 6 | " | |
| "..... | " " Eighteenth..... | 6 | " | |

Stop Valves Set in 1894.

SUMMARY.

| | |
|---------------------|----|
| Size— 2 inch..... | I |
| 4 "..... | II |
| 6 "..... | 30 |
| 12 "..... | 2 |
| Total increase..... | 44 |

Fire Hydrants Placed in 1894.

| STREET. | LOCATION. | NAME. |
|--------------------|--|---------------|
| Second..... | 167 ft. W of Plum..... | Matthews |
| Fourth..... | N W cor. Myrtle [in place of old Pittsburg].. | " |
| Fifth..... | N E " Cherry [in place of o.s. Matthews] | " |
| "..... | 272 ft. E of Reed..... | " |
| "..... | N W cor. Poplar..... | " |
| Seventh..... | 200 ft. W of Poplar..... | " |
| "..... | N E cor. Reed [in place of Bay State]..... | " |
| Eighth..... | N W " Plum..... | " |
| "..... | N W " Raspberry..... | " |
| "..... | N W " Cascade..... | " |
| Eleventh..... | N W " Wayne [in place of Bay State]..... | " |
| "..... | N E " Perry [in place of Bay State]..... | " |
| Twelfth..... | N E " Liberty..... | " |
| Fourteenth..... | N W " Reed..... | " |
| Seventeenth..... | N W " Cherry [in place of old Pittsburg].. | " |
| Eighteenth..... | N W " Cranberry..... | " |
| "..... | 611 ft. W of Cranberry..... | " |
| Nineteenth..... | N W cor. Walnut..... | " |
| Twentieth..... | N W " Peach..... | " |
| Twenty-first..... | N E " German..... | " |
| "..... | 171 ft. W of Raspberry..... | O. Pittsb'g |
| Twenty-second..... | 272 ft. W of Reed..... | Bay State |
| Twenty-fourth..... | 147 ft. W of Liberty..... | O. Pittsb'g |
| Twenty-sixth..... | N E cor. German..... | Matthews |
| "..... | 1233 ft. W of City line..... | " |
| Hess Ave. | N E cor. Twelfth..... | " |
| Ash..... | S E " Twenty-fifth [in place of Bay State] | " |
| German..... | S E " Front..... | " |
| State..... | N E " Nineteenth..... | " |
| "..... | 316 ft. S of Twelfth..... | " |
| "..... | S W cor. Twelfth..... | " |
| "..... | S W " Fifth..... | " |
| "..... | N E " Fourth [in place of Ludlow]..... | " |
| "..... | S W " Second..... | " |
| Peach..... | S W " Twelfth [in place of old one]..... | " |
| "..... | 45 ft. S of Thirteenth [in place of old one].. | " |
| Chestnut..... | N E cor. Tenth [in place of West Jersey].... | " |
| Cherry..... | S E " Second..... | " |
| Poplar..... | N E " Tenth [in place of old Pittsburg].. | " |
| Liberty..... | 395 ft. S of Twenty-sixth..... | Old Matthews |
| Plum..... | 116 ft. N of Sixteenth..... | Old Bay State |
| Scott..... | 13 ft. E of Myrtle..... | Matthews |
| Brewster..... | S E cor. Eleventh..... | " |

Fire Hydrants Placed in 1894.**SUMMARY.**

| | |
|----------------------|-----------|
| Matthews (new)..... | 38 |
| " (old)..... | 1 |
| Bay State..... | 2 |
| Pittsburg (old)..... | 2 |
| | <hr/> —43 |

HYDRANTS REMOVED.

| | |
|----------------------|-----------|
| Pittsburg (old)..... | 3 |
| Matthews..... | 4 |
| Bay State..... | 4 |
| Ludlow..... | 1 |
| West Jersey..... | 1 |
| | <hr/> —13 |
| | 30 |

PRIVATE HYDRANTS PLACED 1894.

| | |
|---|---------|
| Pennsylvania Soldiers' and Sailors' Home..... | 1 |
| Erie City Iron Works..... | 2 |
| Erie Chemical Co..... | 2 |
| | <hr/> 5 |
| Total increase..... | 35 |
| Number in use December 31, 1893..... | 444 |
| | <hr/> |
| Total in use December 31, 1894..... | 479 |

Tees Placed in 1894.

| | |
|-----------------------------|-----------|
| SIZE. | |
| 2 x 3/4..... | 4 |
| 4 x 4..... | 5 |
| 6 x 4..... | 23 |
| 6 x 6..... | 4 |
| 12 x 12..... | 2 |
| | <hr/> —38 |
| Less one 6 x 6 removed..... | 1 |
| | <hr/> |
| Total increase..... | 37 |

Crosses Placed in 1894.

| | |
|--------------------------|-----------|
| SIZE. | |
| 4 x 4..... | 2 |
| 6 x 4..... | 4 |
| 6 x 6..... | 10 |
| 12 x 12..... | 2 |
| | <hr/> —18 |
| Less 1 4 x 4 } | |
| " 4 6 x 4 } | |
| " 1 6 x 6 } Removed..... | 6 |
| | <hr/> |
| Total increase..... | 12 |

ENGINEER'S REPORT ON INTAKE PIPE EXTENSION.

To the Honorable Commissioners of Water Works, Erie, Penn'a:

GENTLEMEN—In accordance with your request I visited Erie on January 22d, to examine the plans prepared by Mr. W. C. Brough, engineer for the extension of the conduit across the harbor, through the peninsula and into the open waters of Lake Erie. Mr. Brough arrived on the following day and kindly furnished me with all the information at his command.

It is unnecessary to state that the present intake is quite objectionable. It is located in the harbor and exposed to the pollution from sewage and other deleterious matter which can reach it from the city and from the shipping. The chemical analysis of this water, published in your Report for the year ending December 31, 1892, confirm the existence of danger to the health of the community by a continuation of the use of the water from the harbor.

There are but two possible sources from which the city may be supplied with suitable water in the future. One source is found in streams to the south of the city and the other is Lake Erie. Experience along the lakes has proven that the lake water is excellent in quality, and, of course, at all times sufficient in quantity. The small streams furnish an insufficient quantity unless artificial storage reservoirs are built to retain the excessive flow during the spring months; and the quality of the water has generally been found inferior to that of the lake. As the expense of obtaining the desired quantity of water from the lake is less, I fully concur in Mr. Brough's decision to utilize this source for all future extensions of your supply.

There are several points in the lake—notably two—from which the water may be drawn. One is off the Head, and the other opposite the city. Mr. Brough has investigated both of these and has made profiles for the pipe lines. He has rejected the former on the grounds of expense and uncertainty in preserving a permanent intake.

My examinations confirm this conclusion. The total length of the pipe line would be about 25,200 feet, and the estimated cost about \$621,000. The intake would be located in an open bay, with a present tendency to deposit sand as well as to collect drift. There is only about twenty-five feet of water 7,000 feet

from shore, and considerable rock excavation for the pipe line along the shore.

There have been other suggestions to obtain lake water from the Head and to make a cut through the Peninsula, with the expectation of improving the quality of the water in the harbor. But none of them take account of the causes of lake fluctuations, or of the tendency of the sand and drift to move along the shore in the direction of the longest "wave fetch." No current of permanent direction can be obtained in the harbor, nor could a channel at the Head be kept open without considerable and constant expense.

The only practicable and least expensive lines are directly across the harbor and out into the lake. Mr. Brough has made soundings and estimates for several of such lines, of which the best one is designated upon the plans as the "D" line. With the same cost it reaches deeper water than the others, and crosses the Peninsula at a better location with regard to future filtration works.

The total length of conduit, as proposed by Mr. Brough, is 16,060 feet, of which 10,860 feet consist of five-foot pipe running across the harbor, and 5,200 feet consist of five and a half foot pipe: of which, again, 1,700 feet are situated on the Peninsula and 3,500 feet in the lake. The extreme end or intake is 34 feet below the government datum of water level of Lake Erie, or zero level. The estimate of cost, according to Mr. Brough, is about \$271,000.

I can see no objections to any of the general features of this plan, and, if properly executed, I believe it will give you a water supply abundant in quantity and excellent in quality.

Regarding the details of this work, some of which have already received Mr. Brough's attention, I have the following suggestions to make:

THE INTAKE.

The first intakes built in the Great Lakes, as at Chicago and Cleveland, were placed in large cribs brought up to above the water surface and provided with light houses, keepers' residences, etc. The city of Toronto, after more than twelve years' experience, has demonstrated, however, that the intake can be submerged, which makes the structure and its maintenance much less expensive. It also makes it less liable to have its ports obstructed by moving fields of ice. A submerged crib is, in my opinion, to be preferred in your case.

To obviate the entrance of floating matter, or the clogging up of screens by slush ice, it is desirable to make the opening so large that the velocity of the water drawn in does not exceed three or four inches per second at any point. The area of opening should not be less than three hundred square feet, exclusive of

the area of the grate bars. These latter are better made of wood than of iron, as slush ice is less liable to adhere to them. As the depth of water is thirty-four feet, and as there should be at least twenty-four feet of water above the intake, the crib in which it is placed, together with the grate bars, should not be more than ten feet above the bottom. In order to determine the proper depth, observations should be made regarding the depth of pack ice, several thousand feet out from the shore of the Peninsula.

The level of the conduit at the pumping station is fixed. The center of the cylinders of the new pumps is 15.5 feet above the lake level, and the bottom of the suction pipe is 8.5 feet below the same, making the greatest lift twenty-four feet. With the given size of the conduit and a given quantity of water to be delivered, we can therefore determine how far out in the lake the intake can be placed. To be most serviceable, I find that it is not advisable to go much further than 3,500 feet from the shore of the Peninsula; to go further would diminish the hydraulic gradient, and therefore the delivery of the pipe.

In making the frame-work of the intake crib, I consider it better to fasten the timbers together by means of drift bolts, suitably placed, rather than by dove-tailing them. The present plans and specifications should be revised to conform to a larger size of opening and other details arising therefrom.

CLARIFICATION OF LAKE WATER.

With the present position of the new pumps, it is not expedient to take the water at so great a distance from the shore that it would never be roily after storms. It is my opinion, further, that after the inhabitants of Erie have had comparatively clear, though less wholesome water from the harbor, they would not be satisfied with roily water, albeit from a pure source. Therefore no extension of the conduit into the lake should be undertaken without first considering suitable arrangements for clarifying the water. These will be comparatively inexpensive, as suitable territory and material for the purpose exist on the Peninsula, and I urgently recommend the consideration of such a project. Without certain information, not yet available, it is doubtful what method should be adopted. For the purpose of obtaining this information you should have a record of the number of days in a year and how far out in the lake the water is usually roily. After the water has been much disturbed, samples should be taken at different distances out, both at the surface and near the bottom of the lake. These should be compared as to color,* and an analysis made of the character and quantity of the suspended material. The nature of the sand on the Peninsula at several points, as regards cleanliness and fineness, should also be

*FOOT NOTE.—See article by Desmond Fitzgerald and William E. Foss in the Journal of the Franklin Institute, for December, 1894.

determined, according to the standard of the Massachusetts State Board of Health. With such data it is then practicable to state whether the clarification can be obtained by simple sedimentation, or whether filtration should be adopted to render the water clear as well as pure at all times. I see no objectionable or expensive feature in either process, in winter or in summer, if suitable arrangements are provided. A sufficient area of land should also be acquired from the United States government for the clarification works.

In order to operate any system of clarification, the water will require to be lifted at the Peninsula, but as the lift will be small, centrifugal pumps answer for the purpose. The annual cost of pumping and clarifying the water will probably be from \$3,000 to \$5,000, according to the character of the water and the number of days when pumping and clarification will be required.

CONDUIT PIPE.

The sizes as suggested by Mr. Brough are sufficiently large to supply the city for a very long time. The pipe can deliver at the pumps over 30,000,000 U. S. gallons daily from the proposed intake. From the peninsula to the pumps the pipe is to be five feet diameter; in the lake five and one-half feet diameter. I think it is well to have this suggested increase in size as it will be of service in rapidly filling the basins on the peninsula, when the water is to be clarified. Mr. Brough has recommended the pipe to be made of steel plate, with riveted joints. The opinions regarding steel pipe are not yet unanimous, but the tendency is growing in favor of its preference over cast iron.* The objection that it is light and might rise to the surface if empty does not apply in this case, as the pipe lies too low to be emptied by the existing pumping machinery. Nor is it practicable in any case to empty the pipe without having a second one to supply the city. At such a time special means can be applied to examine and repair it without disturbing its equilibrium.

The principal objection to the use of steel is that sufficient experience is lacking regarding its durability. It is true that the use of steel pipe is recent. The oldest case I can remember is a double line of such pipe across the bay of San Francisco, belonging to the Spring Valley Water Company. It has now been in use about ten years, and nothing but good news has been heard regarding it. It is laid in salt water and has three heavy coats of asphaltum. The steel pipe laid at Toronto across the harbor has been in use only about three years, but recent examinations have shown that the material has not deteriorated.

*FOOT NOTE.—A good article on this subject which I can recommend reading appeared in the Engineering Record of May 9, 1891, being a paper by D. J. Russell Duncan, read before the annual convention of the American Water Works Association, April, 1891.

Corrosion of such pipe is probably due to galvanic action caused by contact of two materials holding different positions in the electric scale in the presence of a very weak acid. For instance, a freshly broken surface of a poor quality of cast iron contains much combined carbon and in a damp place will rust quite rapidly. The contact of iron and carbon in the presence of the carbonic acid of moist air causes a galvanic current by which the iron is oxidized. Experiments made by Thomas Andrews in Edinburgh have conclusively shown that good wrought iron and steel resist destruction by rust better than average cast iron. In other words, the more homogeneous the metal and the less the quantity of uncombined carbon the greater is the resistance to corrosion. The common observation that cast iron pipes are more durable than wrought iron is explained by the natural formation of magnetic oxide at the surface of the former during the process of casting, thereby giving a natural protection against the destructive action. While good steel, homogeneous in its composition, naturally resists corrosion better than the ordinary cast iron unprotected by magnetic oxide, a protective artificial coating of the steel should preserve it fully as well.

As the cost of the steel pipe and of laying it will be less than in the case of cast iron, I therefore see no reason why it should not be preferred. The pipes should be well coated with at least two coats inside and out of some good, protective material, the principal ingredient being natural asphalt.*

The conduit lately laid in Lake Michigan to the water intake for Milwaukee is of cast iron. Mr. Benzenberg, city engineer, preferred the same, because he did not consider the data sufficient to convince him that cast iron, properly coated, would not be more durable than steel, even though the expense is greater.

In view of all the facts before me, I believe you are justified in adhering to the proposition to use steel pipes, but I suggest that the specifications for their coating be improved to conform with the most recent practice.

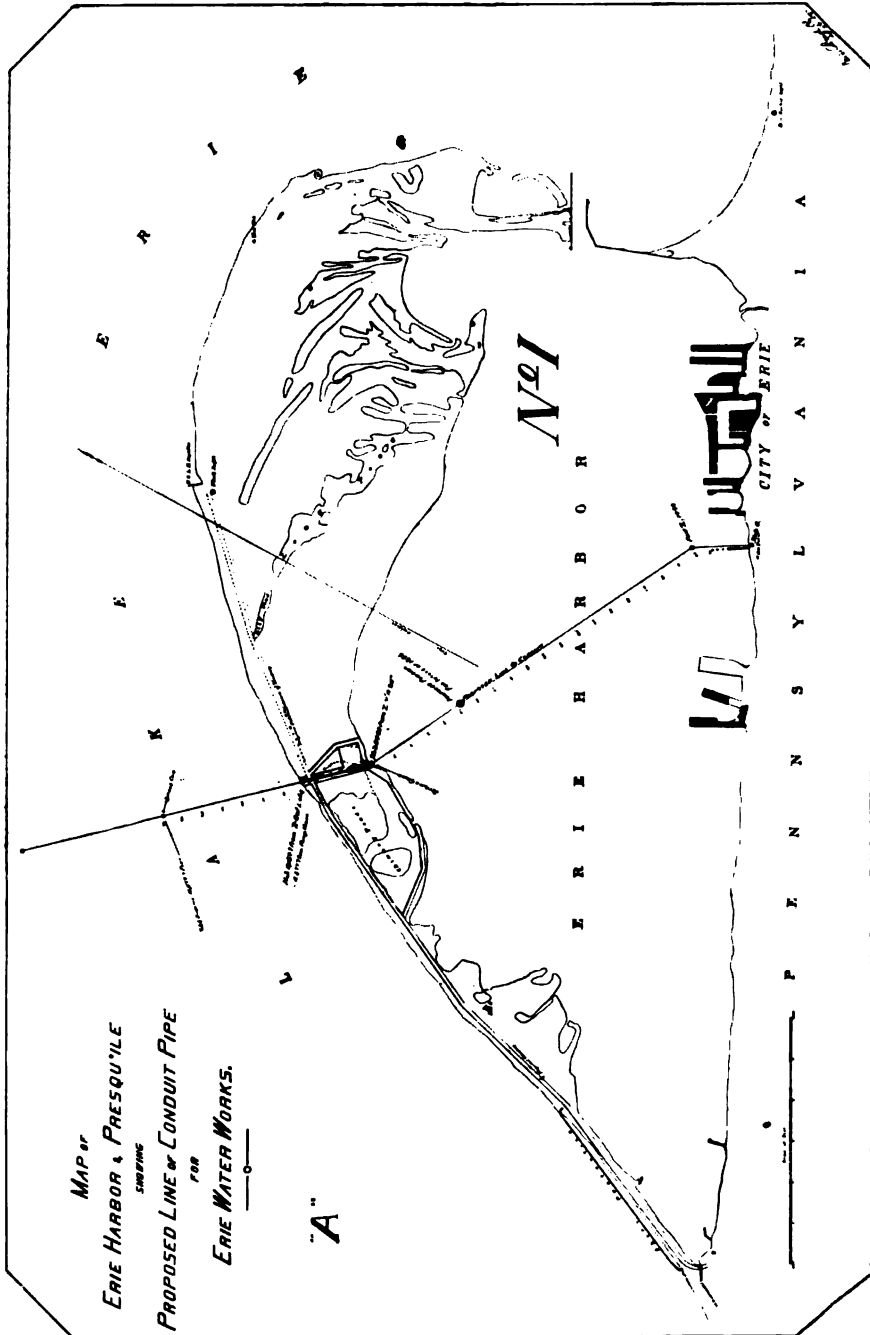
Another important item in the proposed conduit pertains to the joints. It is proposed to manufacture the pipe in lengths of about eighty feet, and to unite these sections with fixed, and occasionally with flexible joints in accordance with the directions of the engineer. I see no reason why such an arrangement is not a proper one, but I believe the joints proposed may be somewhat improved.

First, regarding the fixed joint, I cannot consider that the

*FOOT NOTE.—Reference may be here made to the method of coating used by Clemens Herschel, M. Am. Soc. C. E., for the steel pipe of the East Jersey Water Company, supplying Newark, N. J., etc., a description of which may be found in the Engineering Record of Sept. 26, 1891, p. 264. The method of cleaning the pipes preparatory to coating is minutely described by Emil Kulchling, M. Am. Soc. C. E., in his specifications for the new steel conduit from Hemlock Lake, for the city of Rochester, N. Y.—Eng. Rec., Dec. 24, 1892, p. 74.

MAP OF
 ERIE HARBOR & PRESQU'ILE
 SHOWING
 PROPOSED LINE OF CONDUIT PIPE
 FOR
 ERIE WATER WORKS.

— 0 —



ERIE CITY OF ERIE

NO 1

ERIE HARBOR

P E N N S Y L V A N I A

proposed gasket packing will be permanent and water tight. It must be made under water and the difficulty of tightening so many bolts, and particularly beneath the pipe, seems to me considerable. I think that the joint used by Mr. Benzenberg in Milwaukee would be more likely to secure water tightness. The latter is designed for cast iron pipe, but can equally well be adapted to steel pipe. It has a lead joint similar to that used in laying water mains, excepting that the lead is run upon the spigot end and then inserted into the hub under water. The spigot is then forced into position by means of clamps and screw bolts in such a manner that it spreads the lead out into a groove and also overlaps the inner edge of the hub or faucet.

The flexible joint proposed is the one formerly used in Toronto. Regarding the same Mr. Keating, city engineer, writes as follows: "It is a capital joint, but still open to some objections. Owing to the shortness of the zone or ball the versed sine of the curve is so small that there is practically very little hold on the pipe on each side, and one of our joints did pull out when the pipe rose to the surface. There is also the objection that the lead filling is liable, on account of its softness, to be crushed on the lower side of the joint by reason of the weight of the joint, which naturally leaves a slight opening on the upper side of the joint through which leakage would be apt to occur, and I believe that some of our leakage in the pipes across the harbor is due to this cause. A good many of these joints have been gone over carefully by divers and re-caulked with sheet lead." To obviate these objections a new joint has been used on the six-foot extension into the lake. I agree with Mr. Keating that it possesses some advantages over the old joint, and would advise you to substitute it for the other.

You are already familiar with the flexible joint used by Mr. Hill at Syracuse, N. Y., drawings of which are in your office.

Inasmuch as a future examination of the conduit is beset with difficulties, I would recommend to you to take all possible precautions and make the specifications and inspection most rigid, in order to get both durable and water tight pipes and joints, and in addition to insist upon an effective test of the completed conduit. By tightly closing the intake end and lowering the water at the pump end you can ascertain whether there is leakage and its rate by measuring the rise of the water in the well and the time of filling.

MISCELLANEOUS MATTERS.

Owing to lack of funds to complete the entire work it is proposed to place a temporary intake in the harbor at Big Bend. The water at this point will no doubt be better than at the present intake, but still it will not be safe against dangerous, though invisible, pollution by disease germs entering the harbor from the city. As a temporary expedient, however, I see no objection to

it. To protect it a crib should be placed at the end of the pipe and be provided with strainers similar to the intake crib as required in the lake.

The settling crib, as proposed by Mr. Brough, will act merely to keep gravel or the like from entering the pipe. I do not think it necessary in addition to the temporary crib, in which provision for the retention of the heavy matter can be made, and its purpose is obviated in the permanent project by the introduction of more extensive arrangements yet to be designed for clarifying the water before it is delivered to the citizens.

I have examined the specifications with reference to the engineering requirements of the case and suggest that they be amended where necessary in conformity with the above statements. There are a number of other clauses which have largely a legal character or pertain to executive duties which can be best reviewed by your city solicitor, your engineer in charge of the execution and yourselves.

In conclusion, I desire to state that notwithstanding the temporary removal of the intake to the opposite side of the harbor, or even the removal to beyond the peninsula, this should not furnish an argument against building an intercepting sewer to carry the ordinary flow of the sewers to a point where the sewage will be kept out of the harbor and properly disposed of. Its discharge along the city front will be a constantly increasing nuisance, prejudicial to health by polluting the surrounding atmosphere, if not directly the water supply as it does at present. With the water supply taken from the lake, artificially clarified when roily, and the sewage prevented from fouling the harbor, the health rate of your city must be greatly and permanently improved.

Very respectfully,

RUDOLPH HERING.

NEW YORK, February 12, 1895.

ANNUAL REPORT

OF THE

NEW YORK
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WATER WORKS,

IN THE

CITY OF ERIE,

TO THE

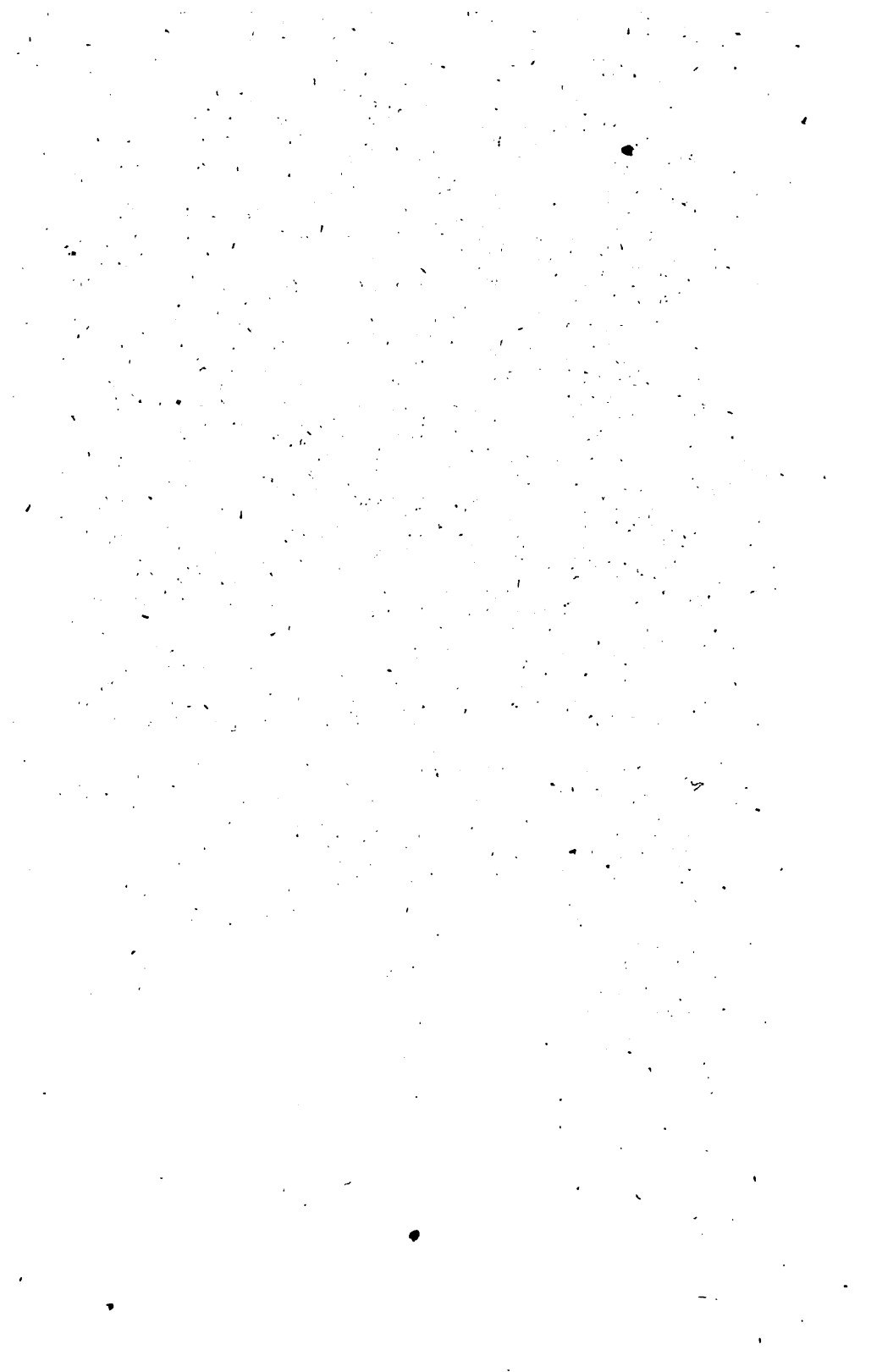
MAYOR AND COUNCILS.

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FOR THE

YEAR ENDING, DECEMBER 31, 1895.

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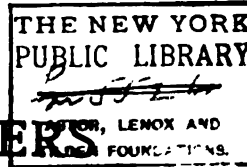
ANNUAL REPORT

OF THE

COMMISSIONERS

OF

WATER WORKS



Compliments of . . .

WILLIAM HIMROD,

SECRETARY AND TREASURER

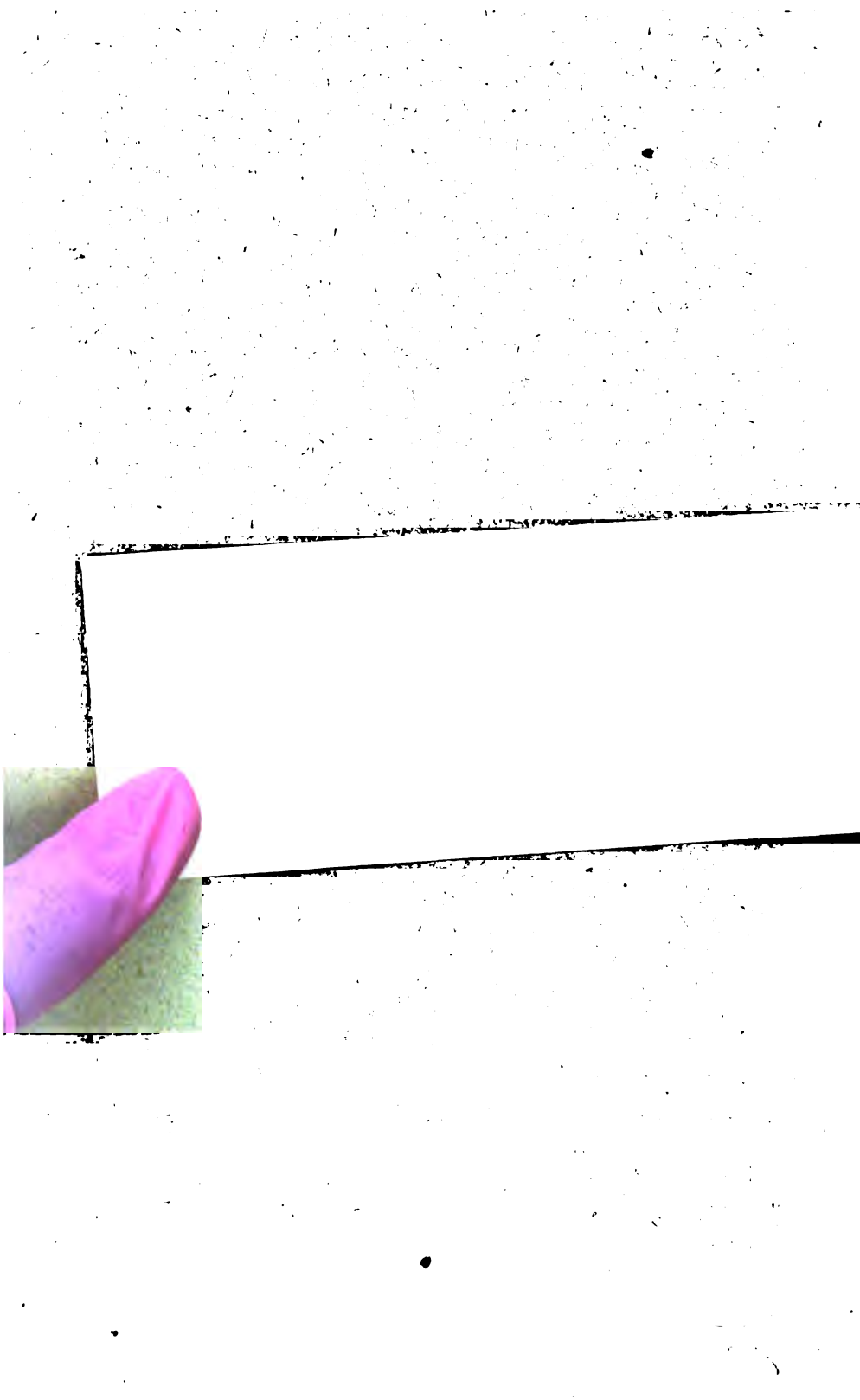
M. American Water Works Association.

MAYOR AND COUNCILS.

FOR THE

YEAR ENDING, DECEMBER 31, 1895.

ERIE, PA.:
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1896.



ANNUAL REPORT

OF THE

COMMISSIONERS

OF

WATER WORKS,

IN THE

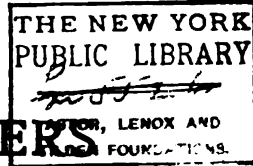
CITY OF ERIE,

TO THE

MAYOR AND COUNCILS.

FOR THE

YEAR ENDING, DECEMBER 31, 1895.



ERIE, PA.:
HERALD PRINT. & PUB. CO.,
1896.



PUMPING STATION.

COMMISSIONERS OF WATER WORKS, IN THE CITY OF ERIE, FROM ORGANIZATION TO DEC. 31, 1895.

The Commissioners of Water Works, in the City of Erie, are appointed by the Court of Common Pleas of Erie County, Pa., for a term of three years, one member being named annually, in May.

| | | | |
|------|--------------------|-------------------|--------------------|
| 1867 | *Wm. L. Scott, | Henry Rawle, | Wm. W. Reed, |
| 1868 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1869 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1870 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1871 | *† John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1872 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1873 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1874 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1875 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1876 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1877 | M. Liebel, | John Gensheimer, | Wm. W. Reed, |
| 1878 | M. Liebel, | *J. M. Bryant, | Wm. W. Reed, |
| 1879 | M. Liebel, | *J. M. Bryant, | *G. W. F. Sherwin, |
| 1880 | M. Liebel, | *J. M. Bryant, | *G. W. F. Sherwin, |
| 1881 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1882 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1883 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1884 | M. Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1885 | M. Liebel, | Benjamin Whitman, | Geo. W. Starr, |
| 1886 | C. Kessler, | Benjamin Whitman, | Geo. W. Starr, |
| 1887 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1888 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1889 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1890 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1891 | C. Kessler, | C. J. Brown, | Wm. Hardwick, |
| 1892 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, |
| 1893 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, |
| 1894 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, |
| 1895 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |

* Dead.

† Mr. Selden resigned before the expiration of his second term; Mr. Barr was substituted by the other Commissioners, and afterwards appointed by the Court.

NOTE.—C. J. Brown resigned December 28, 1895, having been elected Treasurer of Erie County, Pa. Clark Olds was chosen by the other Commissioners, for the unexpired term, on recommendation of the Court, January 2, 1896.

THE PRESENT COMMISSIONERS.

(January 2, 1896.)

WM. HARDWICK, President.

T. W. SHACKLETT.

CLARK OLDS.

OFFICE—City Hall.

OFFICE HOURS—From 8:00 A. M. to 5:00 P. M.; on Mondays to 9 P. M.

REGULAR MEETINGS OF THE COMMISSIONERS—Every Saturday at 3:00 P. M., and the first of each month at 11:00 A. M., except when it occurs on Sunday, then they meet the following day, and every Monday at 7:30 P. M.

OFFICERS AND SALARIES PAID THEM IN 1895.

| | |
|--|-----------|
| Commissioners—Wm. Hardwick..... | \$ 900 00 |
| C. J. Brown..... | 900 00 |
| T. W. Shacklett..... | 900 00 |
| Secretary and Treasurer—Wm. Himrod..... | 2,000 00 |
| Assistant Secretary—Geo. C. Gensheimer. | 1,440 00 |
| Book-Keepers—John Kolb..... | 1,080 00 |
| R. H. Bear..... | 960 00 |
| W. W. Todd..... | 840 00 |
| Clerk—M. L. Whitley..... | 660 00 |
| Inspectors—John D. Spafford..... | 815 00 |
| Wm. McCleery..... | 780 00 |
| P. F. Weinheimer..... | 780 00 |
| Meter Taker—Perry E. Thurber..... | 780 00 |
| Superintendent of Street Work—R. T. Walker..... | 1,320 00 |
| Foremen of Street Work—Fred Simons, per day..... | 2 50 |
| Fred D. Gross, per day..... | 2 50 |
| Chief Engineer—F. A. Roth..... | 1,320 00 |
| Assistant Engineers—Geo. R. Miller..... | 960 00 |
| John Kelly..... | 960 00 |
| Firemen—Joseph Burns..... | 660 00 |
| Jacob Mullen.... | 660 00 |
| Henry F. Voltz (3 months)..... | 165 00 |
| Watchman at Pumping Station—Michael Flynn..... | 660 00 |
| Janitor at Pumping Station—Nathan Block..... | 600 00 |
| Keeper of Reservoir—Samuel Phister..... | 480 00 |
| Janitress—Mrs. Matilda Sager..... | 168 00 |

ANNUAL REPORT.

To the Mayor, Select and Common Councils of the City of Erie, Pa.:

GENTLEMEN:—The Commissioners of Water Works, in the City of Erie, take pleasure in reporting that the business of the year 1895 has been very satisfactory to them, and trust it will be equally so to yourselves and to our fellow citizens.

The balance of cash to our credit in the hands of the Treasurer of the City of Erie, January 1, 1895, was \$18,887.00.

Receipts for water during the year just closed were from the following accounts:

| | | |
|---------------|-------------|--------------|
| Assessed..... | \$91,937.83 | |
| Meter..... | 23,749.47 | |
| Special..... | 257.31 | |
| Building..... | 983.02 | \$116,927.63 |

Receipts from plumbing were \$1,878.12, making total cash for the year \$137,692.75.

The increase of receipts for water from the four divisions of accounts are as follows:

| | | |
|---------------|------------|------------|
| Assessed..... | \$4,491.15 | |
| Meter..... | 409.78 | |
| Special..... | 24.76 | |
| Building..... | 180.00 | \$5,105.69 |

Assessed Accounts are based on the stores, offices, shops, dwellings, fixtures, etc., on property where water is introduced, which are determined annually by a thorough inspection of the same. Work in this line begins about the first of May by house to house inspection, which is conducted as rapidly as possible without sacrificing thoroughness and accuracy, and is completed by the first of



the following December. This field work shows at a glance the date of inspection, name of Inspector, location of the property, frontage and names of the owner and occupant, also the purpose for which the property is used. It also shows the location and kind of fixtures used, stating the assessed rates for each and giving the annual and quarterly revenue derived, together with its account number. Last January we inaugurated the system of furnishing all property owners using city water with a tabulated statement of the amount each piece of property was assessed for. This "Assessment Notice" is compiled from the work of the Inspector, and shows the interested party the "assessed rates," also the basis upon which the quarterly charges are made, which must be paid during the first month of each quarter.

We are pleased to state that this system has given the patrons of the Water Works universal satisfaction. This work, of house to house inspection, is the foundation of the assessment for the year, and when the work is tabulated we are enabled to see at a glance the revenue derived from each assessable item, and the amount each ward in the city yields, also the amounts received from the entire city. In our report for the year 1894 we exhibited on pages 20 and 21 a tabulated statement of the "Assessments for 1895," which explains the system better than we can describe in words.

Meter Accounts are based on the quarterly consumption of water by meter measurement, at the uniform rate of six (6) cents per one thousand (1,000) gallons, *provided* that the consumption does not fall below the minimum charge for the size of meter used. All meters are examined and read every thirty days, but accounts are only rendered quarterly. The consumption of water by meter for the quarter ending December 31, 1895, was greater than ever before in the history of the Water Works.

Special Accounts are based on the consumption of water by assessment against parties not provided with water fixtures on their property, and who obtain their supply from accommodating neighbors having the city water. In all cases of this kind the party desiring the water must pay for it in advance, obtaining a written permission to secure it from a consenting party, but only

for the time specified in said "*Special Permit*." Any person furnishing water to others, without authority, makes himself liable to a fine or to be deprived of water himself.

Building Accounts are based upon the quantity of lime used in repairing and constructing buildings, etc. The owner or agent of the proposed improvement is required to procure a "*Building Permit*," paying for the same before he begins the work.

EXPENDITURES.

The disbursements amount to \$132,771.30, distributed among the several departments as follows :

| | | |
|-------------------|-------------|--------------|
| Construction..... | \$97,007.71 | |
| Maintenance..... | 10,019.48 | |
| Operating | 17,564.78 | |
| Accounting..... | 8,079.33 | |
| Legal..... | 100.00 | \$132,771.30 |

The largest item in the Construction Department being the amount expended on Intake No. 2 ; then in order comes the extension of mains, making of connections, building dock, filling water lots, new stop valves, meters, etc.

March 28, 1895, Hon. Walter Scott, Mayor of the City, approved the ordinance conveying to the Commissioners of Water Works, in the City of Erie, five (5) water lots, Nos. 131, 132, 133, 134 and 135, and on Tuesday, April 9, 1895, the City of Erie by its Mayor, completed the transfer by deeding the property for water works purposes. The deed is recorded in the office of the Recorder of Deeds in and for Erie County in Deed Book No. 114, page 469. These lots add 165 feet to the frontage of the pumping plant, and improvements amounting to \$4,581.08 have already been made on the same. These improvements consist of piers and filling, and when completed, as designed, will make a valuable addition to the property at the harbor.

Extensions of mains were not as extensive as in the previous year, being but 18,004 feet of all sized pipe, making the total length of mains 92 miles 2,787 3-12 feet.

Connections of all sizes have been made where required, either on application of property owners or in compliance with the law where streets are to be paved. Large connections to manufacturing plants have been given for fire protection, and every facility in this line extended to the industries of the city.

Engine No. 1, (which is the west one of the two that were put in when the Water Works were constructed,) was disabled last winter and has not been repaired, because the cost of repairs would exceed the present value of this type of pumping engine.

INTAKE NO. 2.

As stated in our last report, we began work this year on the new intake (designated and known as Intake No. 2), which, if found necessary, is planned to go across the harbor, through the Peninsula and out into the open water of Lake Erie. After careful consideration, including a conference with the boiler manufacturers of our city, we decided to use cast iron pipe, and to extend it to a point in "Big Bend" 8,200 feet from Engine House No. 3, which is about 2,600 feet south of the south shore of the Peninsula, in 21 feet of water, with $13\frac{1}{2}$ feet of water over the crib where the water enters the intake.

We engaged Walter C. Brough, C. E., to take charge of the construction of the work, he having made the preliminary survey.

Plans and specifications for the pipe and specials required that each piece of pipe should be twelve (12) feet five (5) inches long over all, including bell and spigot, sixty (60) inches interior diameter, and one and five-sixteenth ($1\frac{5}{16}$) inches thick, to weigh approximately ten thousand three hundred (10,300) pounds after being coated; a variation from the approximate weight of three (3) per cent being allowed. All weight in excess was not to be paid for, and when the piece weighed less the same to be rejected. Each piece to be subjected to a water pressure of two hundred (200) pounds to the square inch, and while under said pressure to be well and thoroughly hammered. The pipes were to be delivered sound and in good order at the pumping station in Erie, Pa. Payments to be made in four equal payments, three (3), six (6), nine (9) and twelve (12) months respectively from the average



SIXTY-INCH VALVE IN PLACE.

date of delivery, with interest at the rate of six (6) per cent. per annum after three (3) months from said average date, with the right of anticipating the whole or any part of any payment, and in such case interest to cease on amounts so paid.

The approximate weight of the pipe required was three thousand and five hundred and twenty-three (3,523) tons of two thousand (2,000) pounds each.

On Thursday, April 18, 1895, bids for furnishing the pipe and specials in accordance with the plans and specifications were received, and the contract awarded to the Addyston Pipe and Steel Company, of Cincinnati, Ohio, at \$18.00 per net ton, they being the lowest bidders.

Each bid was accompanied with a certificate of deposit in our favor, issued by a bank in our city, for the sum of one thousand (\$1,000.00) dollars, which was to be forfeited to us by the successful bidder should he fail to enter into an agreement and to furnish bonds as provided in the conditions of proposals and contract.

On the 27th day of April, 1895, we entered into an agreement with them for the delivery of the pipe and specials according to the plans and specifications at the price quoted—they giving us a bond in the sum of thirty-two thousand (\$32,000.00) dollars, with local bondsmen, as sureties, for the faithful performance of the contract. They began delivering the pipe May 23, 1895, and completed the delivery of 680 pieces of straight pipe and 7 specials December 7, 1895.

We engaged Geo. H. Barr to inspect the pipe and specials at the foundry where they were cast, who looked after the interests intrusted to him to our entire satisfaction, and we believe it resulted in our having the best lot of 60-inch cast iron pipe ever made in the United States.

| | Pounds. | Per ton of 2,000 pounds. | |
|------------------|-----------|--------------------------|-------------|
| Amounted to..... | 7,202,213 | @ \$18.00 | \$64,819.92 |
| Specials | 3,775 | | 365.00 |
| Total..... | 7,205,988 | | \$65,184.92 |

The actual weight of the pipe and specials exceeded the approximate weight by about $2\frac{1}{4}$ per cent., which we consider a very small variation.

Shortly after entering into this contract, the parties agreed to allow us interest at the rate of six (6) per cent. per annum on all payments made prior to maturity, of which we availed ourselves. Between June 8, 1895, and December 7, 1895, advances were made of forty thousand (\$40,000.00) dollars, the interest thus saved will cover all interest charges on original contract.

The plans and specifications for doing the work, required the excavation of a trench through rock, clay and other material to be met with in the bottom of the bay, to a depth and of a width to permit the laying of a sixty (60) inch cast iron pipe, to the line and grade as shown in the plans. Work to begin at the south end of the proposed intake, close to the pumping station and to extend northwest a distance of eight thousand two hundred (8,200) feet.

The bidder was required to state the kind of joint he proposed to use under water, and to hold us harmless from all infringements, etc. He was to set in place the sixty (60) inch valve, furnish brick and build the valve chamber, the same to be located at south end of said work.

We were to furnish on the grounds at the pumping station the valve just mentioned, pipe, specials and lead, the contractor to furnish all other material necessary and to do all work required to make a water-tight sixty (60) inch cast iron conduit eight thousand two hundred (8,200) feet long, including all material for making, and putting in place the submerged crib at the outer end of said intake; to begin work within twenty-five (25) days from the date of executing the contract and to finish the same on or before December 31, 1895,—and for each and every day thereafter that the work remained uncompleted the contractors were to pay Fifty Dollars (\$50.00) as ascertained and liquidated damages. It also specified that payment would be made during the first week of each month for the pipe laid, complete and tested, during the preceding month, to our satisfaction and in accordance with the contract, at the rate of eighty-five (85) per cent. of the

contract price per foot ; at the completion and acceptance of the whole work a further payment of ten (10) per cent. will be made; but the remaining five (5) per cent. is to be retained by us until six (6) months thereafter, to make good any defects that may appear during that period. Interest is not allowed on deferred payments. The specifications also provided that after the pipe and crib are laid and all connections made, and when the contractor himself considers the work completed, and before being accepted by us, the work shall be tested to our satisfaction, either by pumping the water out of the pipe, first having the mouth of the pipe in the intake crib closed by means of a button, or water-tight cover which is to be placed by the contractor at his own expense ; or by any other method that may be suggested by the contractor and to be approved by us.

The specifications also provided that the contractor shall keep the intake and crib in good repair for six (6) months after the date of its completion and acceptance, and shall correct and repair promptly during the time all leaks or failures of whatsoever description, at his expense.

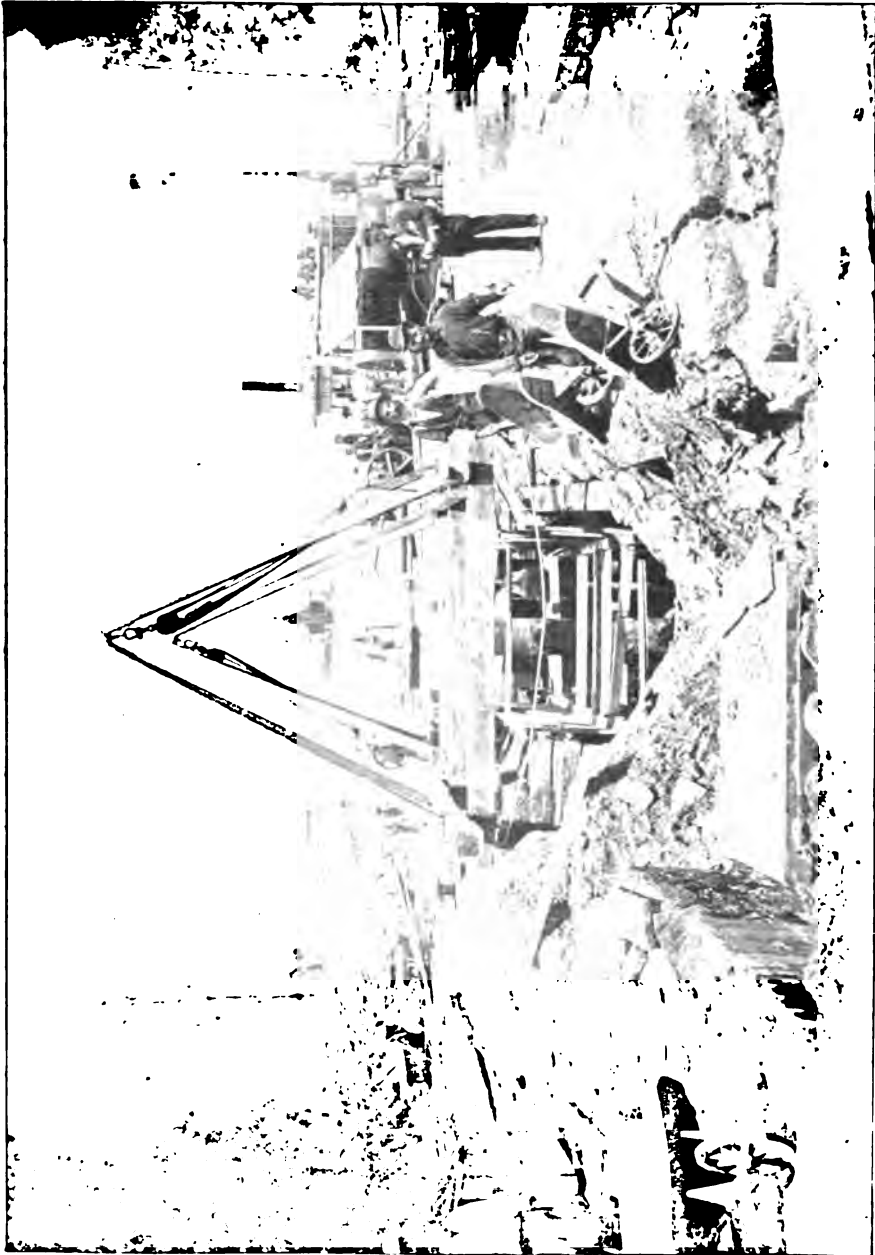
Bidders were requested to state the price, per lineal foot, they would do the work for.

For doing this work we advertised for proposals in our local daily papers, the *Engineering News* and *Engineering Record*, both of New York, N. Y., and in the leading daily papers of Buffalo, Cleveland, Toledo, Milwaukee and Chicago.

On Thursday, April 25, 1895, bids were received, on blanks prepared for that purpose, as follows :

| <i>Bidders.</i> | <i>Address.</i> | <i>Price per lineal foot.</i> |
|------------------------------|--------------------|-----------------------------------|
| Buffalo Dredging Co..... | Buffalo, N. Y..... | \$8.50 |
| Shailer & Schniglaue Co..... | Chicago, Ill..... | 7.30 |
| Hingston & Wood..... | Buffalo, N. Y..... | 6.50 |
| Thacher & Breymann..... | Toledo, Ohio..... | 6.30 |

Each bid was accompanied with a certificate of deposit issued by a bank in this city, in our favor, for the sum of one thousand (\$1,000.00) dollars, which was to be forfeited to us by the success-



EXCAVATING TRIDRUM T AND UNOAGAS FOR

ful bidder should he fail to enter into an agreement and to furnish bonds as provided in the conditions of proposals and contract.

Thacher & Breymann being the lowest bidders were immediately awarded the contract.

On the 27th day of April, 1895, articles of agreement were signed, they giving us a satisfactory local bond in the sum of twenty-six thousand (26,000.00) dollars for the faithful performance of the contract.

Work was begun by the contractors on the 9th day of May, 1895, and on the 17th day of June, the sixty (60) inch valve was put in position, and on the 18th day of June, the first piece of pipe was laid, and from that date to the 5th day of December, when they suspended labor, there had been laid 3,816.45 feet of pipe, for which we were to pay \$24,043.63. Of this sum 85 per cent. has been paid, amounting to \$20,437.09.

Perhaps, in connection with this, a brief description of the manner of joining the pipes and placing them in position will prove interesting.

Close to the water's edge several timbers are placed, a number of them lying level on the ground, so spaced that they will give a uniform support to the six joints of pipe that are to be united into one section: the other timbers are so inclined as to form a way for the launching of the section. On the inner portion of this plankless platform a wire cable is stretched, for the purpose of carrying the molten lead which is used in uniting the pipes. After six pieces of pipe are rolled onto this platform the spigot ends are inserted into the bell ends of their opposites, when the ordinary lead joint is made, and after being thoroughly caulked, the six pieces form a section that is as rigid as though it was a single casting. The sections average 72 10-12 feet in length and average in weight 31½ tons. The spigot ends of each section being slightly tapered in a lathe at the foundry where they are cast, are inserted into the bell end of the preceding section and a lead joint made, after which the spigot end is withdrawn, leaving the lead gasket or packing in the bell. Closing both ends of the section it is launched, buoyed by casks and floated to a posi-

tion directly above its intended bed under the water of the bay, then by removing the cap from the spigot end, detaching enough of the casks to permit the section to sink slowly, and drawing the spigot end of one section into the bell end of the preceding section by threaded rods or draw-bolts with sufficient force to compress the lead gasket; the final formation of the joint being performed by a diver under water.

Frequent tests of the intake are made to know whether or not the joints are tight. This is done by lowering the water in the intake at the manhole (which is situated near the sixty (60) inch valve,) the water rising would indicate a leak, and the time required for it to return to its normal elevation would show whether it was a large or a small one.

When the work on that section of Intake No. 2 which is now under contract is completed we will have the longest line of submerged sixty (60) inch cast iron pipe in the world; and as we also have the highest stand-pipe in the world, it will be seen that the Water Works of Erie have some things of which no other water works can boast.

In this report we have deemed it advisable to insert cuts of the Pumping Station, Reservoir, sixty (60) inch cast iron pipe (lying at the dock ready for use next spring), sixty (60) inch valve in place and cutting through rock at that point, joining pieces of pipe into sections, sections ready for lowering to bottom of trench under water, profile showing grade line of conduit, indicating on same the portion completed and uncompleted; map of the harbor showing direction of conduit and proposed north terminal of same; submerged crib, etc., all of which we feel will be of deep interest to our citizens.

We cannot close this report without referring to the great question of building the intercepting sewer, which this department is on record as having always favored and still considers a necessity, not only for the purification of our water supply, but for the general health of our community, and we firmly believe that if this important work were undertaken, as proposed and agreed upon

several years ago and pushed forward to completion, the water furnished from our proposed stopping place in "Big Bend" could be maintained of such a quality that further extension of the intake pipe to the open lake would be found unnecessary. We have the honor to remain

Yours respectfully,

WM. HARDWICK,

C. J. BROWN,

T. W. SHACKLETT,

Commissioners of Water Works, in the City of Erie.



PIPE IN YARD, AT HARBOR.

**Monthly Receipts from all Sources During the Year
Ending December 31, 1895.**

| Month. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|-------------------|--------------------|--------------------|-----------------|-------------------|-----------------|---------------------|
| January..... | \$19,863 71 | \$ 5,199 29 | \$ 19 87 | \$ 562 48 | \$ 6 80 | \$ 25,652 15 |
| February..... | 2,163 90 | 49 93 | 9 42 | 248 62 | 13 87 | 2,485 74 |
| March..... | 113 72 | ..... | 17 50 | 3 98 | 23 45 | 158 65 |
| April..... | 19,810 48 | 5,711 00 | 20 09 | 3 40 | 89 08 | 25,634 05 |
| May..... | 2,650 19 | 1,322 68 | 39 50 | ..... | 158 93 | 4,171 30 |
| June..... | 595 63 | ..... | 29 16 | 12 06 | 117 27 | 754 12 |
| July..... | 21,069 06 | 5,420 47 | 20 30 | 6 75 | 172 65 | 26,689 23 |
| August..... | 2,119 18 | 167 11 | 36 67 | 29 82 | 89 03 | 2,441 81 |
| September..... | 258 51 | 53 34 | 22 12 | 19 08 | 138 56 | 491 61 |
| October..... | 20,849 02 | 5,312 87 | 23 25 | 714 01 | 120 77 | 27,019 92 |
| November..... | 2,266 78 | 499 53 | 17 34 | 31 13 | 28 74 | 2,843 52 |
| December..... | 177 65 | 13 25 | 2 09 | 246 79 | 23 87 | 463 65 |
| Total..... | \$91,937 83 | \$23,749 47 | \$257 31 | \$1,878 12 | \$983 02 | \$118,805 75 |

**Receipts from Each Ward During the Year Ending
December 31, 1895.**

| Ward. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|-------------------|--------------------|--------------------|-----------------|-------------------|-----------------|---------------------|
| First..... | \$12,454 57 | \$ 3,103 37 | \$ 47 79 | \$ 515 74 | \$204 51 | \$ 16,325 98 |
| Second..... | 20,431 60 | 12,178 21 | 60 50 | 179 21 | 213 07 | 33,062 59 |
| Third..... | 22,827 81 | 3,621 83 | 22 79 | 401 09 | 228 77 | 27,102 29 |
| Fourth..... | 17,818 02 | 970 73 | 59 60 | 19 26 | 107 07 | 18,974 68 |
| Fifth..... | 7,797 89 | 2,743 20 | 45 96 | 5 11 | 110 83 | 10,702 99 |
| Sixth..... | 9,830 15 | 793 13 | 12 41 | 716 79 | 107 33 | 11,459 81 |
| Seventh..... | 777 79 | 339 00 | 8 26 | 40 92 | 11 44 | 1,177 41 |
| Total..... | \$91,937 83 | \$23,749 47 | \$257 31 | \$1,878 12 | \$983 02 | \$118,805 75 |

Cash Account of Secretary and Treasurer of Commissioners of Water Works, in the City of Erie, for the Year Ending December 31, 1895.

| Month. | Receipts. | Deposited with Treasurer City of Erie. | Balance in Office at Close of Business each month. |
|----------------|--------------|--|--|
| January..... | \$25,652 15 | \$23,577 20 | \$2,074 95 |
| February..... | 2,485 74 | 4,510 86 | 49 83 |
| March..... | 158 65 | 163 32 | 45 16 |
| April..... | 25,634 05 | 21,942 11 | 3,737 10 |
| May..... | 4,171 30 | 7,848 72 | 59 68 |
| June..... | 754 12 | 661 04 | 152 76 |
| July..... | 26,689 23 | 24,165 55 | 2,676 44 |
| August..... | 2,441 81 | 4,948 68 | 169 57 |
| September..... | 491 61 | 430 99 | 230 19 |
| October..... | 27,019 92 | 24,203 22 | 3,046 89 |
| November..... | 2,843 52 | 5,718 77 | 171 64 |
| December..... | 463 65 | 635 29 | ..... |
| Total..... | \$118,805 75 | \$118,805 75 | ..... |

Statement of Account with Treasurer of the City of Erie, Pa., for the Year Ending December 31, 1895.

| Month. | Received from Secretary and Treasurer Commissioners of Water Works, in the City of Erie. | Paid on Warrants of Commissioners of Water Works, in the City of Erie. | Monthly Balances. |
|------------------------|--|--|-------------------|
| Balance from 1894..... | \$18,887 00 | ..... | ..... |
| January..... | 23,577 20 | \$1,102 97 | \$41,361 23 |
| February..... | 4,510 86 | 5,043 53 | 40,828 56 |
| March..... | 163 32 | 5,740 09 | 35,251 79 |
| April..... | 21,942 11 | 2,555 69 | 54,638 21 |
| May..... | 7,848 72 | 8,101 32 | 54,385 61 |
| June..... | 661 04 | 19,195 32 | 35,851 33 |
| July..... | 24,165 55 | 14,379 02 | 45,637 86 |
| August..... | 4,948 68 | 20,923 12 | 29,663 42 |
| September..... | 430 99 | 7,196 29 | 22,898 12 |
| October..... | 24,203 22 | 11,622 16 | 35,479 18 |
| November..... | 5,718 77 | 14,712 84 | 26,485 11 |
| December..... | 635 29 | 22,198 95 | 4,921 45 |
| Total..... | \$137,692 75 | \$132,771 30 | ..... |

Amount of Water Rents Collected Each Year, with the Increase and Decrease Since the Commencement of the Works.

| YEAR. | Amount Rec'd. | Increase. | Decrease. |
|--|-----------------------|------------|------------|
| From Jan. 1, 1869, to Dec. 31, 1869..... | \$ 4,264 47 | | |
| " " 1870, to " 1870..... | 9,237 30 | \$4,972 83 | |
| " " 1871, to " 1871..... | 18,138 08 | 8,900 78 | |
| " " 1872, to " 1872..... | 21,652 68 | 3,514 60 | |
| " " 1873, to " 1873..... | 25,560 40 | 3,907 72 | |
| " " 1874, to " 1874..... | 27,938 90 | 2,378 50 | |
| " " 1875, to " 1875..... | 29,639 38 | 1,700 48 | |
| " " 1876, to " 1876..... | 31,048 76 | 1,409 38 | |
| " " 1877, to " 1877..... | 32,276 57 | 1,227 81 | |
| " " 1878, to " 1878..... | 29,636 01 | | \$2,640 56 |
| " " 1879, to " 1879..... | 33,343 20 | 3,707 19 | |
| " " 1880, to " 1880..... | 37,385 00 | 4,041 80 | |
| " " 1881, to " 1881..... | 40,385 87 | 3,000 87 | |
| " " 1882, to " 1882..... | 43,818 73 | 3,432 86 | |
| " " 1883, to " 1883..... | 48,269 89 | 4,451 16 | |
| " " 1884, to " 1884..... | 51,852 78 | 3,582 89 | |
| " " 1885, to " 1885..... | 53,550 35 | 1,697 57 | |
| " " 1886, to " 1886..... | 58,725 00 | 5,174 65 | |
| " " 1887, to " 1887..... | 67,121 92 | 8,396 92 | |
| " " 1888, to " 1888..... | 73,197 03 | 6,075 11 | |
| " " 1889, to " 1889..... | 81,110 68 | 7,913 65 | |
| " " 1890, to " 1890..... | 87,279 96 | 6,169 28 | |
| " " 1891, to " 1891..... | 93,891 55 | 6,611 59 | |
| " " 1892, to " 1892..... | 105,527 03 | 11,635 48 | |
| " " 1893, to " 1893..... | 111,247 43 | 5,720 40 | |
| " " 1894, to " 1894..... | 111,821 94 | 574 51 | |
| " " 1895, to " 1895..... | 116,927 63 | 5,105 69 | |
| TOTAL..... | \$1,444,848 54 | | |

DISBURSEMENTS.

| Department. | Account. | For the Year 1895. | | | From beginning of Works to December 31, 1895. |
|-----------------|------------------------------------|--------------------|-----------|-----------|---|
| | | Labor. | Material. | Total. | |
| Construction... | Ad., Books, Sta. and Printing..... | a \$ 47 64 | \$ 12 74 | \$ 60 38 | \$ 264 61 |
| | Buildings and Grounds..... | 233 29 | | 233 29 | 86,890 78 |
| | Boilers..... | a | | | 3,364 13 |
| | Civil Engineering..... | | | | 8,554 80 |
| | Connections..... | 2,742 85 | 2,321 39 | 5,064 24 | 106,430 36 |
| | Drinking Fountains..... | d 92 53 | 409 66 | 502 09 | 1,162 48 |
| | Engines and Boilers..... | | | | 98,336 61 |
| | Engines..... | a | | | 15 05 |
| | Engine No. 4..... | b | | | 48,353 18 |
| | Engine House No. 3..... | b | | | 21,401 94 |
| | Engine Room Fur. and Fix..... | | | | 1,398 86 |
| | Expense..... | a 90 47 | 17 02 | 107 49 | 306 80 |
| | Electric Light Plant..... | | | | 722 98 |
| | Fire Hydrants..... | a 95 65 | 465 45 | 561 10 | 21,571 88 |
| | Fuel..... | a 54 | 24 77 | 25 31 | 147 52 |
| | Gas Well..... | | | | 8,148 50 |
| | Horse, Wagon and Cartage..... | 121 09 | 216 47 | 338 16 | 4,111 97 |
| | Intake Pipe No. 1..... | | | | 49,474 39 |
| | Intake Pipe No. 2..... | b 26,708 52 | 44,783 02 | 71,486 54 | 79,505 92 |
| | Interest and Discount..... | | | | 99,420 45 |
| | Light—Oil, Lamps, Wicks, etc..... | a 65 | 29 40 | 30 05 | 133 04 |
| | Lowering Mains..... | 5 89 | | 5 89 | 590 20 |
| | Mains and Branches..... | 4,982 95 | 6,312 23 | 11,295 18 | 50,601 18 |
| | Main, 30-inch..... | | | | 75,955 61 |
| | Meters..... | 300 43 | 760 87 | 1,061 30 | 16,271 56 |
| | Office Furniture and Fixtures..... | a 2 48 | 112 87 | 115 35 | 1,068 85 |
| | Oil and Tallow..... | b 05 | 2 25 | 2 30 | 5 16 |
| | Paving and Street Repairs..... | b | | | 4 07 |
| | Park Fountains..... | | | | 3,244 54 |
| | Railroad Switch and Scales..... | | | | 2,918 92 |
| | Reservoir..... | | | | 123,150 83 |
| | Stop Valves..... | 76 67 | 969 40 | 1,066 07 | 30,483 10 |
| | Superintendent's Stores..... | | | | 217 05 |
| | Superintendent's Expense..... | a | | | 52 52 |
| | Shop Rent..... | a 4 66 | 113 09 | 117 65 | 539 58 |
| | Tools and Repairs..... | 184 59 | 169 65 | 354 24 | 4,385 76 |
| | Telephone and Telegraph..... | a | | | 11 09 |
| | Water Lots..... | e 2,404 28 | 2,176 80 | 4,581 08 | 4,581 08 |
| Maintenance... | Ad., Books, Sta. and Printing..... | a 47 55 | 9 23 | 56 78 | 236 07 |
| | Buildings and Grounds..... | a 713 33 | 231 03 | 944 36 | 6,672 42 |
| | Boilers to December 31, 1892..... | | | | 18,365 28 |
| | Boiler No. 1..... | c 28 81 | 106 11 | 134 92 | 547 09 |
| | Boiler No. 2..... | c 35 93 | 96 84 | 132 77 | 554 65 |
| | Boiler No. 3..... | c 35 28 | 219 49 | 254 77 | 657 27 |
| | Boiler No. 4..... | c 30 19 | 205 04 | 235 23 | 704 99 |
| | Boiler No. 5..... | c 42 06 | 80 09 | 122 15 | 303 53 |
| | Boiler No. 6..... | c 37 88 | 84 12 | 122 00 | 289 82 |
| | Boiler House..... | c 28 18 | 7 45 | 35 63 | 506 35 |
| | Connections..... | 1,228 71 | 125 06 | 1,353 77 | 7,316 02 |
| | Drinking Fountains..... | d 12 33 | 10 79 | 23 12 | 32 78 |
| | Engines to December 31, 1892..... | | | | 13,402 04 |
| | Engine No. 1..... | c 48 52 | 5 67 | 54 19 | 112 30 |
| | Engine No. 2..... | c 44 98 | 175 51 | 220 49 | 310 09 |
| | Engine No. 3..... | c 59 75 | 129 83 | 189 58 | 430 56 |
| | Engine No. 4..... | d 72 89 | 406 05 | 478 94 | 617 82 |
| | Engine House No. 1..... | c 11 02 | 1 28 | 12 30 | 1,003 01 |
| | Engine House No. 2..... | c 316 23 | 296 72 | 612 95 | 1,229 08 |
| | Engine House No. 3..... | c 22 96 | 13 77 | 36 73 | 363 64 |
| | Engineer's Stores..... | b | | | 1 05 |
| | Engine Room Fur. and Fix..... | a 17 | 7 54 | 7 71 | 175 73 |
| | Expense..... | a 89 90 | 15 57 | 105 47 | 287 96 |
| | Electric Light Plant..... | b 1 84 | 83 87 | 85 71 | 203 91 |
| | Fire Hydrants..... | a 324 44 | 219 10 | 543 54 | 1,682 31 |
| | Fuel..... | a 60 | 27 54 | 28 14 | 104 78 |

DISBURSEMENTS—Continued.

| Department. | Account. | For the Year 1895. | | | From be- ginning of Works to December 31, 1895. |
|-------------|-------------------------------------|--------------------|--------------|---------------|---|
| | | Labor. | Material. | Total. | |
| Maintenance | Horse, Wagon and Cartage..... | \$ 121 80 | \$ 220 83 | \$ 342 63 | \$ 4,121 78 |
| | Intake Pipe No. 1..... | a 22 27 | 12 04 | 34 31 | 146 11 |
| | Light—Oil, Lamps, Wicks, etc..... | a 48 | 21 65 | 22 13 | 71 54 |
| | Mains and Branches..... | 640 82 | 29 03 | 669 85 | 17,846 41 |
| | Main, 30-inch..... | a | | | 899 33 |
| | Meters..... | 97 68 | 228 39 | 326 07 | 4,642 12 |
| | Office Furniture and Fixtures..... | a 3 47 | 157 89 | 161 36 | 262 11 |
| | Oil and Tallow..... | b 05 | 2 25 | 2 30 | 4 54 |
| | Paving and Street Repairs..... | a | | | 449 94 |
| | Railroad Switch and Scales..... | a 114 86 | 124 16 | 239 02 | 614 70 |
| | Reservoir..... | 801 90 | 524 14 | 1,326 04 | 24,873 98 |
| | Stand Pipe..... | c 100 81 | 366 32 | 467 13 | 3,816 93 |
| | Stop Valves..... | 74 29 | 7 00 | 81 29 | 4,251 40 |
| | Superintendent's Stores..... | | | | 396 52 |
| | Superintendent's Expense..... | a | | | 52 56 |
| | Shop Rent..... | a 4 56 | 113 09 | 117 65 | 539 34 |
| | Tools and Repairs..... | 186 17 | 252 28 | 438 45 | 4,809 84 |
| | Waste and Packing..... | b | | | 22 18 |
| Operating | Ad. Books, Sta. and Printing..... | a 50 32 | 135 26 | 185 58 | 849 17 |
| | Buildings and Grounds..... | b 1,287 66 | | 1,287 66 | 3,701 62 |
| | Engineers and Firemen..... | 5,617 74 | | 5,617 74 | 117,469 57 |
| | Engineer's Stores..... | | | | 2,348 57 |
| | Expense..... | a 176 83 | 87 89 | 264 72 | 805 18 |
| | Electric Light Plant..... | b 03 | 1 50 | 1 53 | 33 13 |
| | Fire Hydrants..... | b 39 51 | | 39 51 | 130 58 |
| | Fuel..... | 96 50 | 4,395 86 | 4,492 36 | 154,302 10 |
| | Horse, Wagon and Cartage..... | d 18 | 8 02 | 8 20 | 45 50 |
| | Inspectors..... | c 2,427 14 | | 2,427 14 | 6,734 32 |
| | Insurance..... | 2 40 | 109 33 | 111 73 | 1,265 08 |
| | Light—Oil, Lamps, Wicks, etc..... | a 30 | 13 63 | 13 93 | 254 67 |
| | Meters..... | b 802 48 | 3 51 | 805 99 | 2,025 92 |
| | Oil and Tallow..... | 21 23 | 967 31 | 988 54 | 11,585 49 |
| | Reservoir..... | b 490 53 | | 490 53 | 1,812 37 |
| | Rent of Office..... | b 4 41 | 153 23 | 157 64 | 564 76 |
| | Stop Valves..... | c 36 77 | | 36 77 | 36 77 |
| | Tools and Repairs..... | a 2 10 | 95 71 | 97 81 | 328 52 |
| | Taxes—State, County and School..... | | | | 1,479 33 |
| | Telephone and Telegraph..... | a 4 79 | 217 99 | 222 78 | 738 38 |
| | Waste and Packing..... | 5 80 | 264 11 | 269 91 | 4,957 80 |
| | Water Rents returned..... | 96 | 43 75 | 44 71 | 1,056 65 |
| Accounting | Ad. Books, Sta. and Printing..... | 9 74 | 443 77 | 453 51 | 8,890 68 |
| | Expense..... | 49 | 22 23 | 22 72 | 14,763 99 |
| | Horse, Wagon and Cartage..... | b | | | 17 30 |
| | Postage..... | 6 41 | 291 77 | 298 18 | 5,531 14 |
| Sundries | Salaries..... | 7,304 92 | | 7,304 92 | 168,563 73 |
| | City of Erie Sinking Fund Com..... | | | | 105,500 00 |
| Legal | City of Erie, Penna..... | a | | | 6 41 |
| | Court Costs..... | | | | 478 46 |
| | Counsel Fees..... | 100 00 | | 10 00 | 3,258 53 |
| | Expense..... | a | | | 89 02 |
| Totals..... | | \$ 61,982 68 | \$ 70,788 62 | \$ 132,771 30 | \$ 2,152,344 34 |

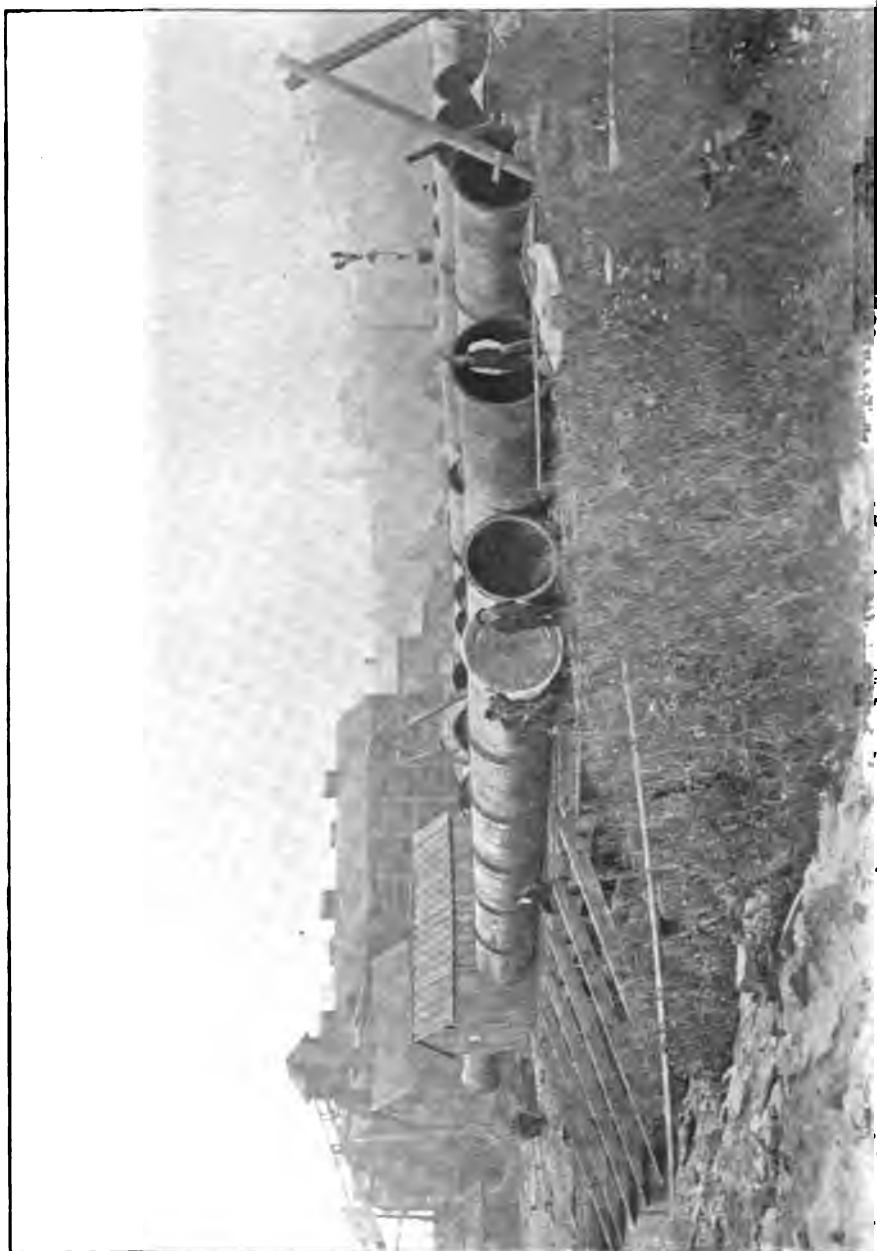
a Accounts started in 1891.

b Accounts started in 1892.

c Accounts started in 1893.

d Accounts started in 1894.

e Accounts started in 1895.



RECAPITULATION.

| Department. | For the Year 1895. | | | | From beginning of Works to December 31, 1895. |
|--------------------|--------------------|--------------------|--------------------|---------------------|---|
| | Pro Rata. | Labor. | Material. | Total. | |
| Construction..... | .7306376+ | \$38,000 73 | \$58,916 98 | \$97,007 71 | \$1,408,788 68 |
| Maintenance..... | .0754642+ | 5,402 71 | 4,616 77 | 10,019 48 | 123,930 88 |
| Operating..... | .1322935+ | 11,067 68 | 5,497 10 | 17,564 78 | 312,525 58 |
| Accounting..... | .0608514+ | 7,321 56 | 757 77 | 8,079 33 | 197,766 84 |
| Sundries..... | | | | | 105,506 41 |
| Legal..... | .0007531+ | 100 00 | | 100 00 | 3,825 95 |
| Totals..... | .9999998+ | \$61,982 68 | \$70,788 62 | \$132,771 30 | \$2,152,344 34 |

1895. Statement of Accounts with City of Erie, Pa. 1895.

| CITY OF ERIE, PA. | | DR. | |
|---|-------------|-------------|---------------------|
| WATER— Fire Hydrants..... | \$48,400 00 | | |
| Park Fountains..... | 1,251 05 | | |
| Flushing Mill Creek..... | \$850 00 | | |
| " Sewers..... | 371 00 | 1,221 00 | |
| City Hall..... | 248 14 | | |
| Engine Houses..... | 176 98 | | |
| Drinking Fountains..... | 72 97 | | |
| Lake Front Park..... | 72 00 | | |
| East Park..... | 50 00 | | |
| West Park..... | 50 00 | \$51,542 14 | |
| INTEREST— From Second Nat'l Bank Balances, October 1, 1894, to April 1, 1895.. | 273 62 | | |
| April 1, 1895, to October 1, 1895.. | 411 40 | 685 02 | |
| Balance..... | | 676,090 52 | \$728,317 68 |
| CREDITS. | | | |
| BALANCE— December 31, 1894. | | 685,677 06 | |
| INTEREST— On same to December 31, 1895. | | 41,140 62 | |
| RENT— Of Offices one year..... | | 1,500 00 | 728,317 68 |
| Balance..... | | | \$676,090 52 |

| 1895. | Statement of Resources and Liabilities December 31, | | 1895. |
|---|---|--------------|----------------|
| RESOURCES. | | | |
| PLANT NORTH OF FRONT STREET—Buildings and Grounds, including Piers..... | | | |
| Engine House No. 3, from January 1, 1892..... | \$106,030 50 | \$127,621 85 | |
| Boilers from January 1, 1891..... | 21,591 35 | | |
| Engines and Boilers to January 1, 1891..... | 3,409 15 | | |
| Engine No. 4, from January 1, 1892..... | 104,325 20 | 156,792 35 | |
| Electric Light Plant..... | 49,058 00 | 732 69 | |
| Engine Room Furniture and Fixtures..... | | 1,549 20 | |
| Intake Pipes—No. 1..... | 55,568 44 | 137,445 37 | |
| No. 2 from January 1, 1892..... | 81,876 93 | 3,262 09 | |
| Railroad Switch and Scales..... | | 4,630 51 | \$432,034 06 |
| Water Lots from January 1, 1895..... | 115,384 56 | | |
| PLANT SOUTH OF FRONT STREET—Connections..... | 1,177 15 | | |
| Drinking Fountains from January 1, 1894..... | 26,292 80 | | |
| Fire Hydrants..... | \$554,808 27 | | |
| Mains and Branches..... | 83,327 29 | | |
| Main, 30-inch..... | 638,135 56 | | |
| Meters..... | 17,228 25 | 831,437 00 | |
| Stop Valves..... | 33,218 68 | 1,084 88 | |
| Office Furniture and Fixtures..... | | 137,629 35 | 970,151 23 |
| Reservoir..... | | | 1,402,185 29 |
| | | 4,921 45 | |
| PERSONAL—Cash in hands of Treasurer of City of Erie..... | | | |
| ACCOUNTS—Assessed..... | 485 74 | | |
| Meter..... | 6,033 50 | 6,520 24 | |
| Plumbing..... | | 236 59 | 11,678 28 |
| | | | \$1,413,863 57 |
| LIABILITIES. | | | |
| ACCOUNTS—City of Erie, Pa..... | | 676,090 52 | |
| Advance on Assessed..... | | 221 27 | 676,311 79 |
| Balance..... | | | 737,551 78 |
| | | | \$1,413,863 57 |



Pumping Engine Statistics for 1895.

The pumps are four in number. Nos. 1 and 2 are known as the Cornish Bull Pumps. The diameter of each plunger is 20 $\frac{3}{4}$ inches, and each has a stroke of 10 feet. The capacity of each pump is estimated to be 165 gallons to each stroke. Pump No. 3 is a Gaskill Horizontal Compound Pumping Engine, having two H. P. cylinders 21 in. diameter, two L. P. cylinders 42 in. diameter, and two pumps 19 $\frac{1}{2}$ in. diameter, and all 36 in. stroke, of a guaranteed capacity of 5,000,000 gallons daily at a piston speed of 120 feet per minute against a head of 237 feet. Pump No. 4 is a Worthington Horizontal Compound High Duty Engine, having two H. P. cylinders 33 in. diameter, two L. P. cylinders 66 in. diameter, and two pumps 29 in. diameter, and all 49 $\frac{3}{4}$ in. stroke, of a guaranteed capacity of 12,000,000 gallons daily at a piston speed of 128 feet per minute against a head of 260 feet. The Stand Pipe is 259.65 feet high. The Reservoir is nearly two miles from the Pumping Works, the bottom of which is 210 feet above the surface of the Bay, and the water has been maintained during the year at an average depth in the Reservoir of 25.10 feet.

| Month. | No. 1. | | No. 2. | | No. 3. | | No. 4. | | Totals. | | Daily Average | Average Lift in Feet. |
|---------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|----------|---------------|---------------|-----------------------|
| | Days Run | Gallons. | Days Run | Gallons. | Days Run | Gallons. | Days Run | Gallons. | Days Run | Gallons. | | |
| Jan. | 31 | 166,583,112 | 31 | 166,583,112 | 31 | 166,583,112 | 31 | 166,583,112 | 31 | 166,583,112 | 5,373,848 | 237.10 |
| Feb. | 28 | 152,786,976 | 28 | 152,786,976 | 28 | 152,786,976 | 28 | 152,786,976 | 28 | 152,786,976 | 7,333,666 | 237.17 |
| March. | 31 | 166,779,624 | 31 | 166,779,624 | 31 | 166,779,624 | 31 | 166,779,624 | 31 | 166,779,624 | 5,379,987 | 237.86 |
| April. | 30 | 142,479,480 | 30 | 142,479,480 | 30 | 142,479,480 | 30 | 142,479,480 | 30 | 142,479,480 | 4,816,993 | 237.68 |
| May. | 31 | 166,547,464 | 31 | 166,547,464 | 31 | 166,547,464 | 31 | 166,547,464 | 31 | 166,547,464 | 5,059,544 | 235.65 |
| June. | 30 | 156,845,880 | 30 | 156,845,880 | 30 | 156,845,880 | 30 | 156,845,880 | 30 | 156,845,880 | 5,245,439 | 234.50 |
| July. | 31 | 171,984,984 | 31 | 171,984,984 | 31 | 171,984,984 | 31 | 171,984,984 | 31 | 171,984,984 | 5,547,902 | 237.29 |
| August. | 31 | 166,872,422 | 31 | 166,872,422 | 31 | 166,872,422 | 31 | 166,872,422 | 31 | 166,872,422 | 5,351,723 | 237.77 |
| Sept. | 30 | 161,070,198 | 30 | 161,070,198 | 30 | 161,070,198 | 30 | 161,070,198 | 30 | 161,070,198 | 5,369,006 | 237.88 |
| Oct. | 31 | 152,944,518 | 31 | 152,944,518 | 31 | 152,944,518 | 31 | 152,944,518 | 31 | 152,944,518 | 4,933,604 | 237.92 |
| Nov. | 30 | 140,013,630 | 30 | 140,013,630 | 30 | 140,013,630 | 30 | 140,013,630 | 30 | 140,013,630 | 4,667,121 | 238.09 |
| Dec. | 31 | 156,086,280 | 31 | 156,086,280 | 31 | 156,086,280 | 31 | 156,086,280 | 31 | 156,086,280 | 5,035,041 | 238.02 |
| Total. | 365 | 1,975,396,304 | 365 | 1,975,396,304 | 365 | 1,975,396,304 | 365 | 1,975,396,304 | 365 | 1,975,396,304 | 5,426,064 | 237.24 |

The regular employes at the Pumping Works are one chief engineer, two assistant engineers, three firemen, one watchman and one janitor. The chief engineer stands a watch of five hours, from 7 to 12 every forenoon; the assistants divide the remainder of each day equally between them; each one of the firemen stands a watch of eight hours. Besides firing, the firemen unload the coal from the cars, except when two pumps are run, in which case they are assisted by the watchman or a laborer. The chief engineer gives ten hours daily to the services of the Commissioners of Water Works in the City of Erie, the hours when he is not on watch being employed in repairs, supervision, etc. In addition to standing their regular watch, the assistant engineers aid their superior officer in keeping the machinery in order. The watchman takes care of the grounds and does such other work as may be required of him. The janitor takes care of the buildings.

RATES FOR CITY WATER.

Approved by Select Council Aug. 19, 1895. Approved by Common Council Sept. 16, 1895.
Approved by the Mayor, Sept. 21, 1895.

ALL ARE ANNUAL EXCEPT AS OTHERWISE INDICATED, AND PAYABLE QUARTERLY IN ADVANCE.

| | |
|--|----------------|
| Air Pump..... | 2 00 |
| Bath Tub—Private (one family) first tub..... | 3 00 |
| Bath Tub—Private (one family) each additional tub..... | 1 50 |
| Bath Tub—Public, each tub..... | 5 00 |
| Bakery, per barrel of flour used (but no charge less than \$5)..... | 01 |
| Barber Shop, first chair, including hand basin..... | 4 00 |
| Barber Shop, each additional chair, including hand basin..... | 2 00 |
| Billiard Tables, each..... | 1 00 |
| Blacksmith Fire, first fire..... | 5 00 |
| Blacksmith Fire, each additional fire..... | 2 50 |
| Boarding House, (in addition to family rates) per room..... | 1 00 |
| Building Purposes, per bushel lime; to be paid before work is begun..... | 02 |
| Butcher Stalls..... | 3 00 to 15 00 |
| Charitable Institutions, one-third annual rates..... | |
| C. W..... | 75 |
| Condensing Boiler for Steam Heating, (per season of six months) per horse power,..... | 25 |
| Eating Houses..... | 5 00 to 25 00 |
| Family..... | 5 00 |
| Fire Protection Fixtures, testing same, thirty (30) minutes or less..... | 8 00 |
| Fire Protection Fixtures, testing same, one (1) hour or less, but more than thirty (30) minutes..... | 5 00 |
| Flushing Sewers, settling earth in ditches or purposes of a like nature, per hour or fractional part of an hour, each..... | 5 00 |
| Hand Basins in dwellings, hotels and schools, first basin..... | 1 00 |
| Hand Basins in dwellings, hotels and schools, each additional basin..... | 50 |
| Hand Basins in offices, stores and blocks, each..... | 1 00 |
| Hotels, (in addition to family rates) per room..... | 1 00 |
| Laundry, shop..... | 5 00 |
| " wash tub, stationary, each..... | 2 00 |
| " revolving washer, each..... | 5 00 |
| Livery Stable, per horse..... | 2 00 |
| " office..... | 3 00 to 10 00 |
| Private Stable, one or two horses..... | 2 00 |
| Private Stable, each additional horse over two..... | 1 00 |
| Printing Offices..... | 5 00 to 30 00 |
| Public Halls..... | 5 00 to 25 00 |
| Saloons..... | 5 00 to 25 00 |
| School, per pupil (in addition to fixtures)..... | 10 |
| Slaughter Houses..... | 5 00 to 50 00 |
| Sleeping Rooms, each..... | 1 00 |
| Sprinkling Streets or Lawns with Hose, Per SEASON: | |
| Corner lot, 41 feet front or less..... | 5 00 |
| Inside lot, 41 feet front or less..... | 3 00 |
| For each additional foot front to either corner or inside lot..... | 05 |
| Steam Engines, ten hours per day, each Horse Power..... | 2 50 |
| Stoves..... | 3 00 to 15 00 |
| Crinal, private, self-closing, (one family)..... | 2 00 |
| " not self-closing (one family):..... | 6 00 |
| " public, self-closing..... | 3 00 |
| " not self-closing..... | 10 00 |
| " private or public, continuous flow..... | 10 00 to 50 00 |
| Wash Tub, stationary, first tub, (one family)..... | 2 00 |
| " each additional tub, (one family)..... | 1 00 |
| Water Closet, pan or tank (one family) private..... | 3 00 |
| " each additional water closet..... | 1 50 |
| " public, each..... | 5 00 |
| " hopper, (one family) private, for each water closet..... | 6 00 |
| " public, each water closet..... | 10 00 |
| Work Shop, ordinary use..... | 3 00 to 5 00 |

All other uses, when not metered, to be assessed by the Commissioners.

The sprinkling season is from May 1st to November 1st in each year.

There is no fractional part of a sprinkling season.

It will cost as much to sprinkle but once at any time during the sprinkling season as it will to sprinkle each day at the prescribed hours during the entire season.

Sprinkling must be confined to the hours between 5 and 8 A. M., 12 and 1 P. M., and 5 and 8 P. M., nor during said intervals more than one hour at a time. Persons who exceed one hour may be charged at fountain rates, or held liable for violation of the rules, at the option of the Commissioners.

Meter Rates.

Six (6) cents for each one thousand (1,000) gallons by meter measurement, *Provided* the minimum receipts per quarter shall be for a

| | | | |
|-----------------------|--------|-------------|---------|
| 1/2 inch or less..... | \$3 75 | 2 inch..... | \$10 00 |
| 1 inch..... | 4 50 | 3 inch..... | 18 75 |
| 1 1/2 inch..... | 6 25 | 4 inch..... | 38 75 |

Main Pipe Laid in 1895.

| LOCATION. | SIZES. | | | | | REMARKS. |
|--|--------|--------|-------|-------|-------|---|
| | 1 in. | 1½ in. | 2 in. | 4 in. | 6 in. | |
| Front, at Water Works Pumping Station..... | | | | 294 | 6 | |
| 2d, from Ash west..... | | | | 353 | 6 | |
| 2d, from Poplar west..... | | | | 56 | | |
| 2d, bet. Holl. and Germ. n.-w..... | | | | 327 | 9 | { 319 feet of 1 inch taken out. |
| 4th, from Parade east..... | | | | 172 | | |
| 4th, from Cascade to Raspberry | | | | 708 | 8 | |
| 4th, from Raspberry west..... | | | 381 | 2 | | |
| 4th, from Ash west..... | | | | 437 | | |
| 5th, from Liberty west..... | | | | | 179 | |
| 5th, from Parade west..... | | | | | 67 | |
| 7th, from Cascade to Plum..... | | | | | 720 | |
| 9th, from Liberty east..... | | | | | 18 | 8 |
| 9th, from Plum west..... | | | | | 802 | |
| 10th, bet. Plum and Cascade.. | | | | | 285 | 4 |
| 10th, cor. Cascade..... | | | | 4 | 8 | |
| 10th, from Cascade west..... | | | | | 136 | 6 |
| 12th, from Cranberry west..... | | | | | 392 | |
| 13th, from Peach to State..... | | | | | 378 | |
| 15th, bet. Ash and Reed..... | | | | | 36 | 6 |
| 16th, bet. Raspberry and Cranb. | | | | | 519 | |
| 16th, from Cascade east..... | | | | | 519 | |
| 19th, from German east..... | | | | | 196 | |
| 20th, from Plum east..... | | | | | 107 | |
| Brown Av., from Cherry west... | | | | | 410 | 2 |
| Brown Av., from 24th south.... | | | 96 | | | |
| 22d, from Cherry west..... | | | | | 258 | |
| 22d, from Raspberry east..... | | | | | 178 | |
| 23d, crossing Sassafras..... | | | | | 66 | { In place of 66 ft. of 4 in. taken out |
| 24th, " "..... | | | | | 66 | { In place of 66 ft. of 4 in. taken out |
| 24th, bet. Wayne and Perry..... | | | | | 114 | |
| 24th, bet. Ash and Wallace..... | | | | | 181 | |
| 24th, from French east..... | | | | | 206 | |
| 24th, from Cranberry west..... | | | 52 | 6 | | |
| 25th, crossing Sassafras..... | | | | | 43 | { In place of 43 ft. of 4 in. taken out |
| 27th, bet. State and Peach..... | | | | | 136 | 6 |
| 28th, from Holland east..... | | | | | 246 | 2 |
| Ross, bet. 3d and 4th..... | | | | 339 | 9 | |
| Wilson, bet. 3d and 4th..... | | | | 24 | | |
| Ash, bet. 2d and 3d..... | | | | 72 | | |
| Parade, cor. 17th..... | | 11 | 6 | | | |
| " bet. 4th and 5th..... | | | | | 128 | |
| " from north of 28th so'th..... | | | | | 59 | |
| German, from s. of 15th to 17th. | | | | | 730 | 5 |
| " intersection of 19th..... | | | | | 4 | |
| Holland, bet. 27th and 28th..... | | | | | 170 | |
| Sassafras, from 21st to 23d..... | | | | | 660 | |
| " from 24th to 25th..... | | | | | 330 | |
| Myrtle, from 23d to 24th..... | | | | | 330 | |
| Chestnut, from 26th south..... | | | | | 325 | |

Main Pipe Laid in 1895—Continued.

| LOCATION. | SIZES. | | | | | REMARKS. |
|--|--------|--------|-------|---------|---------|--|
| | 1 in. | 1½ in. | 2 in. | 4 in. | 6 in. | |
| Chestnut, bet. 6th and 7th..... | | | | 171 6 | | |
| Poplar, from 9th north..... | | | | | 24 | |
| " " 2d south..... | | | | 62 | | |
| " " 22d south..... | | | | | 111 | |
| " " 2d north..... | | | | 134 | | |
| " " 4th north..... | | | | 174 | | |
| " bet. 3d and 4th..... | 137 | | | | | |
| " bet. 22d and 23d..... | | | | | 24 | |
| Liberty, cor. 2d..... | | | | 12 4 | | H. B. |
| Plum, bet. 12th and 13th..... | | | | | 111 | |
| " from 7th north..... | | | | | 120 | |
| " " 9th north..... | | | | | 50 6 | |
| Cascade, from 5th south..... | | | | | 173 3 | In place of 179 ft. 1 in. taken out. |
| " " 26th north..... | | | | | 180 | |
| " bet. 25th and 26th..... | 170 6 | | | | | |
| " from 6th north..... | | | | | 233 5 | |
| " " 6th south..... | | | | | 410 | |
| Raspberry, from 8th to 9th..... | | | | | 390 | |
| " " 21st south..... | | | | | 532 4 | |
| Cranberry, from 24th to 26th..... | | | | | 652 6 | |
| Penn'a Av., from 11th south..... | | | | | 266 | |
| Brandes, from 26th north..... | | | | | 155 6 | |
| Pine Av., from 28th south..... | | | | | 2038 8 | |
| " " bet. Chestnut lane and city line..... | | | | 15 3 | | H. B. |
| Total..... | 307 6 | 11 6 | 529 8 | 3358 11 | 14469 5 | |

Main Pipe Laid in 1895.

SUMMARY.

| | | | | | | |
|------|-----------|--------|---------|--------|-------|--|
| See. | | | | | | |
| 1 | inch..... | 307 | 6 feet. | | | |
| 1½ | "..... | 11 | 6 " | | | |
| 2 | "..... | 529 | 8 " | | | |
| 4 | "..... | 3,358 | 11 " | | | |
| 6 | "..... | 14,469 | 5 " | 18,677 | feet. | |

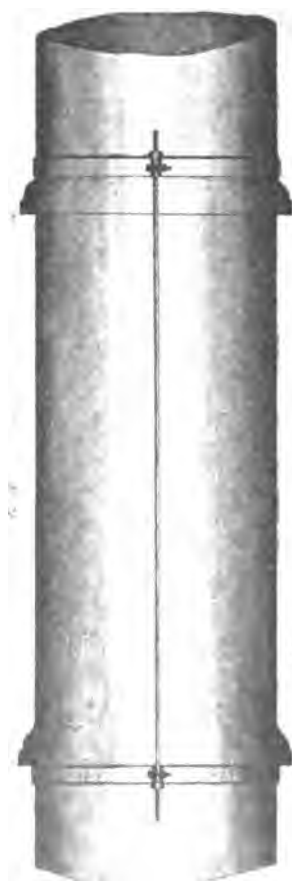
LESS PIPE REMOVED.

| | | | | | | |
|------------|-----------|-----|-------|------------|-------|-------|
| 1 | inch..... | 498 | feet. | | | |
| 4 | "..... | 175 | " | 673 | feet. | |
| Total..... | | | | 18,004 | feet. | |
| | | | | or 3 miles | 2,164 | feet. |

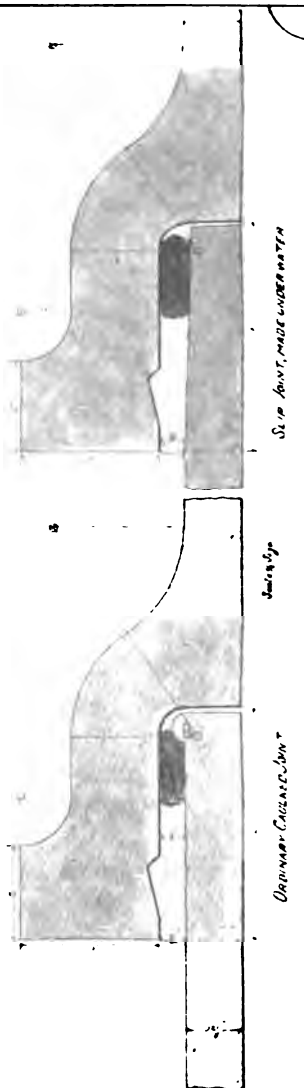
PRIVATE PIPE LAID.

| | | | | | | |
|--------------------------|-----------|-----|-------|----------|----------|----------|
| 4 | inch..... | 140 | feet. | | | |
| 6 | "..... | 283 | 10 " | 423 | 10 feet. | |
| Total..... | | | | 3 miles | 2,587 | 10 feet. |
| Previously reported..... | | | | 89 miles | 199 | 5 " |
| Grand total..... | | | | 92 miles | 2,787 | 3 feet. |

PIPE JOINTS.



METHOD OF DRAWING TOGETHER AND SECURING
THE SLIP-JOINT



METHOD OF MAKING JOINTS UNDER WATER.

Tees Placed In 1895.

| | |
|----------------------------|------------|
| Sizes. | |
| 4 x 4..... | 16 |
| 6 x 4..... | 19 |
| 6 x 6..... | 2 |
| Total increase..... | —37 |

Crosses Placed In 1895.

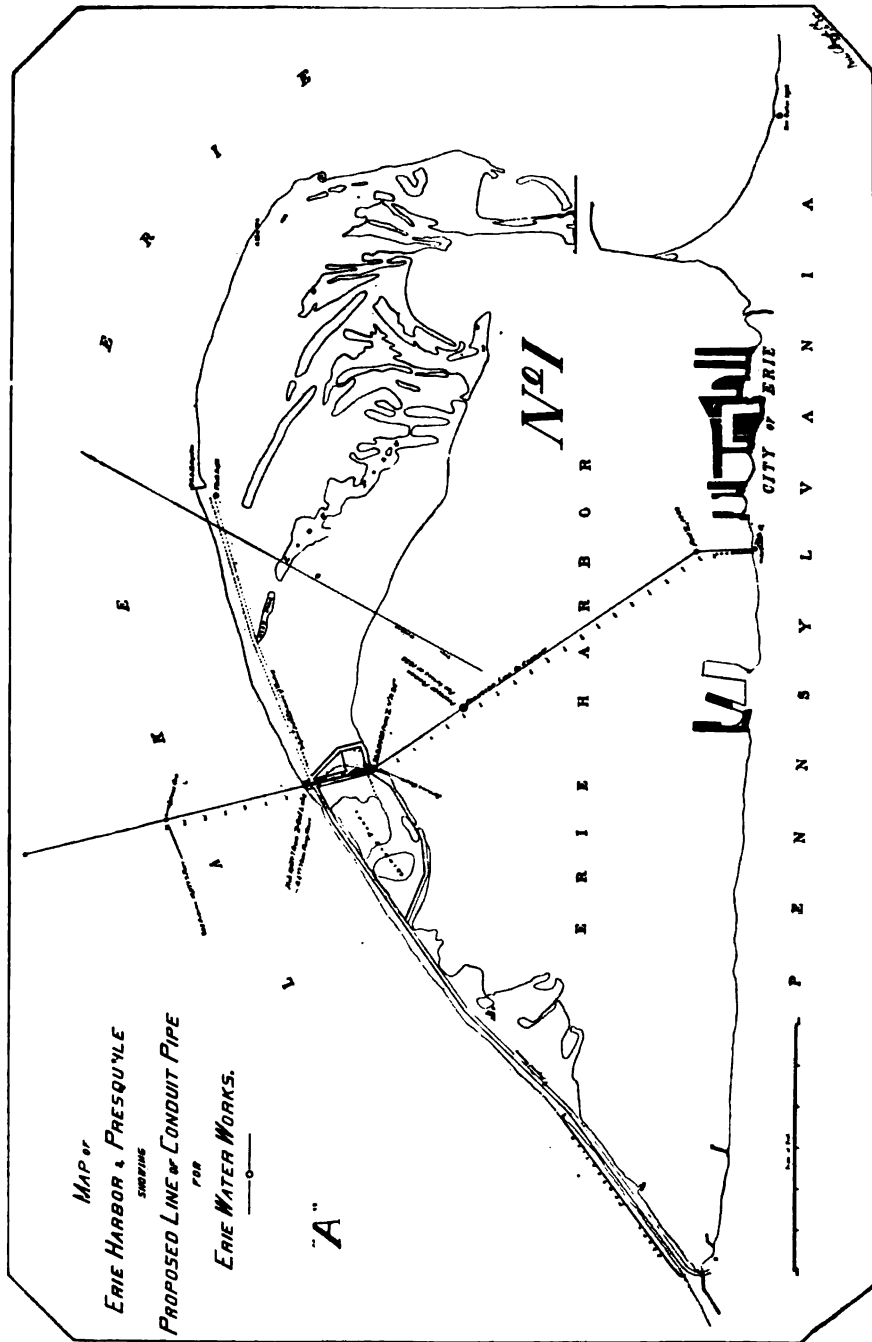
| | |
|----------------------------|-----------|
| Sizes. | |
| 4 x 4..... | 1 |
| 6 x 6..... | 14—15 |
| Less removed— | |
| 4 x 4..... | 3 |
| 6 x 4..... | 1—4 |
| Total increase..... | 11 |

Connections Made In 1895.

| | |
|--|---|
| Sizes. | |
| $\frac{3}{4}$ -inch..... | 539 |
| 1 "..... | 11 |
| $1\frac{1}{2}$ "..... | 6 |
| 2 "..... | 6 |
| 4 "..... | 15 |
| 6 "..... | 1—578 |
| Less removed— | |
| $\frac{3}{4}$ -inch..... | 14 |
| 1 "..... | 3 |
| $1\frac{1}{2}$ "..... | 1 |
| 2 "..... | 1—19 |
| Total increase..... | 559 amounting to 10.851 $\frac{1}{2}$ ft. |
| | Equalling 2 Miles 291 $\frac{1}{2}$ " |
| Previously reported to December 31, 1894..... | 34 " 4760 $\frac{1}{2}$ " |
| Total to December 31, 1895..... | 36 " 5051 $\frac{1}{2}$ " |

N. B.—In addition 53 connections were renewed in streets to be paved, and others which had given out.

| | | | |
|-------------------|-----------|-----------------|---|
| Streets. | | Streets. | |
| Second..... | 25 | Holland..... | 1 |
| Tenth..... | 1 | Peach..... | 1 |
| Twelfth..... | 2 | Sassafras..... | 7 |
| Fourteenth..... | 1 | Chestnut..... | 8 |
| Sixteenth..... | 1 | Walnut..... | 5 |
| Parade..... | 1 | | — |
| Total..... | 53 | | |



Fire Hydrants Placed In 1895.

| STREET. | INTERSECTION OF | NAME. |
|---------------------|---|-----------|
| Front & Chest..... | At Water Works Pumping Station | Matthews |
| Second..... | N W cor. German...[in place of o. s. Matthews] | " |
| East Park..... | | " |
| West Park..... | | " |
| Ninth..... | N W cor. Cascade..... | " |
| Tenth..... | N E " Cascade [one removed 265 e. of Casc] | " |
| Eleventh..... | N W " Ash.....[in place of Pittsburg] | " |
| Twelfth..... | N E " Walnut.....[in place of Bay State] | " |
| "..... | N E " Cherry.....[in place of Bay State] | " |
| Sixteenth..... | 180 ft. E of Cranberry..... | Pittsburg |
| Twenty-fourth..... | 150 ft. E of Wallace..... | Bay State |
| "..... | 148 ft. W of Perry..... | Matthews |
| Twenty-seventh..... | N W cor. State..... | " |
| Parade..... | N E " Seventeenth.....[for Cart Sprinkler] | Jarecki |
| German..... | N E " Thirteenth.....[in place of Union] | Matthews |
| Holland..... | N E " Fourteenth..[in place of West Jersey] | " |
| French..... | 72 ft. N of Sixth...[place of Morris, Tasker & Co.] | " |
| Peach..... | S E cor. Nineteenth.....[in place of Bay State] | " |
| Poplar..... | 332 ft. S of Twelfth.....[in place of Bay State] | " |
| Liberty..... | S E cor. Second..... | " |
| Scott..... | N E cor. Twenty-seventh...[place of Bay State] | " |
| Pine Ave..... | 352 ft. S of Chestnut Lane..... | " |
| "..... | 20 ft. N of City line..... | " |

Fire Hydrants Placed In 1895.

SUMMARY.

| | |
|-----------------------|------|
| Matthews..... | 20 |
| Pittsburg..... | 1 |
| Bay State..... | 1 |
| Jarecki, 1½-inch..... | 1 23 |

HYDRANTS REMOVED.

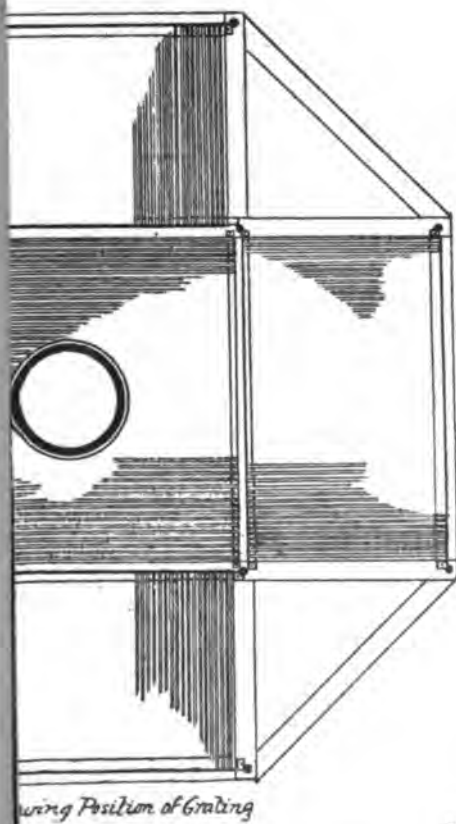
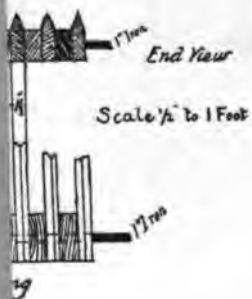
| | |
|--------------------------|------|
| Matthews (old)..... | 1 |
| Matthews..... | 1 |
| Pittsburg..... | 1 |
| Bay State..... | 5 |
| Union..... | 1 |
| West Jersey..... | 1 |
| Morris, Tasker & Co..... | 1 11 |

| | |
|--------------------------------------|-----|
| Total increase..... | 12 |
| Number in use December 31, 1894..... | 479 |
| Total in use December 31, 1895..... | 491 |

| STREET. | Location. | Size. | Style. | Remarks. |
|---------------------|---------------------------|-------|--------|----------|
| Front and Chestnut. | Water Works Pump Station. | 4 | Eddy. | |
| " " " " | " " " " | 4 | | |
| Public Dock. | 266' West of State. | 2 | | |
| Second. | West line of Ash. | 4 | Eddy. | |
| " " " " | " " German. | 4 | | |
| " " " " | East " Holland. | 4 | " | |
| " " " " | 295' 6" East of Holland. | 4 | " | |
| Fourth. | East line of Parade. | 4 | " | |
| " " " " | West " Cascade. | 4 | " | |
| " " " " | East " Raspberry. | 4 | " | |
| " " " " | West " Ash. | 4 | " | |
| " " " " | " " Poplar. | 4 | " | |
| Sixth. | East " Cascade. | 6 | " | |
| Seventh. | " " " " | 6 | " | |
| " " " " | West " Plum. | 6 | " | |
| " " " " | East " Chestnut. | 4 | " | |
| Ninth. | West " Plum. | 6 | " | |
| " " " " | " " Cascade. | 6 | " | |
| Tenth. | East " " " | 6 | " | |
| " " " " | West " " " | 6 | " | |
| Twelfth. | " " Cranberry. | 6 | " | |
| Sixteenth. | " " Raspberry. | 6 | " | |
| " " " " | East " Cascade. | 6 | " | |
| Nineteenth. | " " German. | 6 | " | |
| Brown Avenue. | West " Cherry. | 6 | " | |
| Twenty-second. | " " " " | 6 | " | |
| " " " " | East " Raspberry. | 6 | " | |
| Twenty-third. | West " Sassafras. | 6 | " | |
| Twenty-fourth. | East " " " | 6 | " | |
| " " " " | West " " " | 6 | " | |
| Twenty-fifth. | " " " " | 6 | " | |
| Twenty-eighth. | East " Holland. | 6 | " | |
| Brandes. | North " Twenty-sixth. | 6 | " | |
| German. | " " Sixteenth. | 6 | " | |
| Sassafras. | " " Twenty-third. | 6 | " | |
| " " " " | South " Twenty-first. | 6 | " | |
| " " " " | North " Twenty-fifth. | 6 | " | |
| Chestnut. | " " Short. | 4 | " | |
| " " " " | South " Twenty-sixth. | 6 | " | |
| Poplar. | North " Fourth. | 4 | " | |
| Cascade. | " " Twenty-sixth. | 6 | " | |
| " " " " | " " Sixth. | 6 | " | |
| Raspberry. | South " Eighth. | 6 | " | |
| " " " " | " " Twenty-first. | 6 | " | |
| Cranberry. | North " Twenty-sixth. | 6 | " | |
| Pine Avenue. | South " Twenty-eighth. | 6 | " | |

SUMMARY.

| Size. | NUMBER. | LESS REMOVED. | |
|-------------|---------|------------------------|-----------|
| 2-inch..... | 1 | 4-inch..... | 2 |
| 4-inch..... | 14 | | <u>44</u> |
| 6-inch..... | 31 | PRIVATE VALVES PLACED. | |
| | — | 4-inch..... | 1 |
| | | Total increase..... | <u>45</u> |



THIRTIETH
ANNUAL REPORT
OF THE
COMMISSIONERS
OF
WATER WORKS,
IN THE
CITY OF ERIE,
TO THE
COUNCILS,
FOR THE
YEAR ENDING DECEMBER 31, 1896.

ERIE, PA.:
HERALD PRINT. & PUB. CO.,
1897.

THIRTIETH
ANNUAL REPORT
OF THE
COMMISSIONERS
OF

Compliments of . . .

Commissioners of Water Works,
in the City of Erie.

COUNCILS,

FOR THE
YEAR ENDING DECEMBER 31, 1896.

ERIE, PA.:
HERALD PRINT. & PUB. CO.,
1897.



THIRTIETH
ANNUAL REPORT
OF THE
COMMISSIONERS
OF
WATER WORKS,
IN THE
CITY OF ERIE,
TO THE
COUNCILS,
FOR THE
YEAR ENDING DECEMBER 31, 1896.

ERIE, PA.:
HERALD PRINT. & PUB. CO.,
1897.

**Commissioners of Water Works,
in the City of Erie,
Erie, Penn'a.**

**WILLIAM HARDWICK,
T. W. SHACKLETT,
CLARK OLDS.**

Officers.

**T. W. SHACKLETT,
President.**

**WILLIAM HIMROD,
Secretary and Treasurer.**

**GEO. C. GENSHEIMER,
Assistant Secretary.**

**F. A. ROTH,
Chief Engineer at Pumping Station.**

**R. T. WALKER,
Superintendent of Street Work.**

OFFICE—City Hall.

OFFICE HOURS—From 8:00 A. M. to 5:00 P. M.; on Mondays to 9:00 P. M.

REGULAR MEETINGS OF THE COMMISSIONERS—Every Saturday at 3:00 P. M., and the first of each month at 11:00 A. M., except when it occurs on Sunday, then they meet the following day, and every Monday at 7:30 P. M.



**WILLIAM L. SCOTT,
COMMISSIONER,
1867.**

ANNUAL REPORT.

To the Councils of the City of Erie, Pa.:

GENTLEMEN:—

The thirtieth annual report of the Board of Water Commissioners for the year ending December 31, 1896, is respectfully submitted for your consideration :

RECEIPTS :

| | |
|--|---------------------|
| Balance in City Treasury, January 1, 1896... | \$ 4,921.45 |
| From Water Rents..... | 121,442.94 |
| From all other sources..... | 502.37 |
| Total..... | <u>\$126,686.76</u> |

DISBURSEMENTS :

| | |
|--|---------------------|
| Paid for Construction..... | \$88,919.37 |
| “ “ Maintenance..... | 10,054.09 |
| “ “ Operating..... | 18,979.11 |
| “ “ Accounting..... | 8,178.90 |
| “ “ Legal Services..... | 100.00 |
| Balance in City Treasury, Dec. 31, 1896..... | 635.29 |
| Total..... | <u>\$126,686.76</u> |

The revenue derived from water rents shows an increase over the preceding year of \$4,515.31, or nearly 4 per cent.

New mains have been laid aggregating in extent nearly 2 miles, and connections amounting to about 2½ miles, making the total length of mains now laid 94 miles, 2114 6-12 feet, and of connections 39 miles, 1857 feet.

The department has been at considerable outlay for connections on newly paved streets from which no immediate returns will be received, but we follow a wise custom in doing this rather than tearing up the pavements as service pipes are needed and required.

The year has been marked by several very important improvements, notably the completion of the new intake pipe to Big Bend, which was begun two years ago.

The cost of this great undertaking, approximating \$140,000, rendered necessary by the constantly increasing number of sewers that are being built to accommodate the western portion of the city, whose contents are discharged in close proximity to the



**WILLIAM W. REED,
COMMISSIONER,
1867-1879.**

Water Works, has been met from the surplus funds of the Department,—the last payment (with the exception of \$2,616.76 retained as a guarantee) will be made in the month of January ensuing.

The quality of the water is greatly improved, as is indicated in many ways, particularly by the freedom from debris on the screens protecting the well which were formerly often completely clogged, especially after great wind storms.

There can be little hope, however, of maintaining anything like a pure standard while the source of supply is fouled by the discharge of the city's sewage into it; and this is the great question constantly confronting us in the grave and responsible duty imposed upon us of furnishing "a full supply of pure and wholesome water."

In the failure to build an intercepting sewer,—which in our judgment is to be regretted—some other means of preventing the further pollution of the water, or for its purification, will be absolutely necessary before many years have passed; either by the less expensive method of diverting the course of Mill Creek, (into which is emptied about four-fifths of the entire sewage of the City,) through the Sand Beach to the open lake; or of chemically treating or otherwise disposing of the discharge from the Canal and Little Cascade Sewers; or for the building of a filtration plant, or the construction of a reservoir, south of the present one, to serve as a settling basin, as well as for additional storage.

Arrangements have recently been made with Dr. Mason of the Troy Polytechnic Institute for periodical examinations of the water,—chemical and bacteriological,—in order to enable us, from time to time, to note its exact condition and possible deterioration; and also in connection with reports from the Health Officer to watch its effect upon the increase or decrease of typhoid fever cases and deaths—a disease so largely, if not entirely, communicable by water.

A paper by Commissioner Olds accompanies this report, and gives the result of his observations and investigation of filtration plants in several European cities. It shows, conclusively, that the filtration method is, after all, the safest and surest; and plants of this character have already been erected in many cities in our own country, and are being considered by others as the true solution of the pure water problem.



HENRY RAWLE,
COMMISSIONER,
1867-1871.

The erection, within the past few years, of a new Engine house, the addition of the Worthington High Duty Pump, with a daily capacity of twelve-million gallons, and the extension of the intake pipe one and one-half miles constitute a work second only in magnitude to the institution of the plant itself, thirty years ago. As a comparison between the present and the past, we have asked Mr. Wm. W. Reed, a member of the first Board of Commissioners, to contribute a brief history of the Water Works, which is herewith presented and will be read with interest.

Incidental to the extension of the new intake pipe, the Commissioners have made and acquired about five acres of land on the water lots at the pumping station, upon which the contractors were required to dump material excavated from the trench in which the pipe was laid and where was also deposited the earth that has been removed in preliminary preparation for the proposed new boiler house. This plot of ground will eventually furnish a location for filter beds or other needs of the Department, and in the meantime, will be made attractive, so the public may enjoy the same,—a privilege, we are quite sure, that will be thoroughly appreciated.

The Commissioners have not only kept pace during the past year with demands for new mains and connections, but as means allowed, have bettered the service by replacing the six-inch main on Twelfth Street from State to Chestnut Street with a twelve-inch main, which now gives a main of the latter size as far west as Poplar Street; and have also increased the water supply on State Street about three-fold, by laying an eight-inch main from North Park Row to Eleventh Street, which will be extended next spring to Twelfth Street; at the same time placing upon these lines the most improved fire hydrants, thus affording the chief manufacturing street, and our main business thoroughfare additional and much needed fire protection.

The first and most important improvement now demanding our attention is the matter of new boilers. Four of the six have been in constant use for more than sixteen years, and investigation has shown that their condition is such that they ought not to be longer used in a plant of this character where an accident would be nothing short of a calamity.

The boiler house and smoke stack being of insufficient size for present demands, to say nothing of future increase, has rendered it advisable to build a larger boiler house, and to install, at least, four new boilers, which are to be of the most improved type, thus securing better and more economical results, utilizing the two newer ones now in commission, and making the building large enough for other boilers in the future, using the surplus room,

in the meantime, for the storage of coal, as we have facilities at present for taking care of but little more than a ten days supply.

This work, which we consider of the deepest importance, and which has only been delayed on account of the intake pipe extension, must be undertaken at once, and having been accomplished, it is then our purpose to recognize the urgent demand from the great manufacturing plants in the southeastern part of the City for larger mains, not only for better fire protection and service, but at the same time affording an improved circulation and consequently better water for domestic purposes in that locality.

It is our plan to afford the aid asked for, first, by extending the twelve-inch main on East Avenue, northwardly from Twenty-first Street to Twelfth Street; thence westwardly on Twelfth to Wayne, and secondly, to replace with a twelve-inch main the four-inch main now in Parade Street, from Seventh to Twelfth Street.

The Commissioners have long felt the justice of the claims of citizens of South Erie for a better pressure and more efficient water supply, and it is their earnest desire to give the necessary relief to that section as soon as possible. The construction of another reservoir on Nicholson's hill or the Reed farm (to which reference has already been made) would, satisfactorily, meet the difficulties under which they labor.

It would be impossible for anyone to come in close touch with the needs and requirements of the Water Department, without realizing what an important factor it is in the life and make-up of a community; and while we are of the opinion that all the surplus revenue might well be expended for several years to come in the betterment of the plant and in the direction of providing for our citizens the great blessing of "a full supply of pure and wholesome water," upon which the health and prosperity of a people so largely depend, yet, we recognize to a certain extent the justness of the claim that a portion of the net earnings should annually be paid towards the liquidation of the debt incurred in the erection of the works; and it is our purpose, after having completed the two important enterprises herein referred to, to arrange our expenditures so that we shall be able to pay at least \$25,000.00 annually to the Sinking Fund Commissioners for that purpose. It should be borne in mind, however, that the Department has furnished and is still furnishing free water for more than five hundred fire hydrants which have been erected and maintained at its own expense; besides supplying the parks, city building, engine houses, etc., to the value of more than \$26,000.00 annually,—a sum equivalent to the interest on the Water Works' debt.

The Commissioners note with satisfaction that steps are being taken for an audit of the accounts of this Department. For years

we have asked that such an audit be made, but the former Controller declined to undertake the task on the ground of insufficient help. It will be our desire and pleasure to afford every facility for the accomplishment of this work.

The number of Meters has been very largely increased within the past few years, and while their cost has been considerable, the investment has amply repaid in the curtailment of wastage, which in some instances was enormous ; and, we are now pumping less water and getting more money for it, as the following table of comparison will show :

| | GALLONS PUMPED. | RECEIPTS FOR SAME. |
|------|-----------------|--------------------|
| 1892 | 2,047,993,505 | \$105,527.03 |
| 1896 | 2,005,757,728 | \$121,442.94 |

The pumpage of water in 1892 was 127 gallons daily, for every man, woman and child in the city, while it was 108 gallons per capita, daily, in 1896, and even this quantity is, at least, double what it should be.

The larger part of this great saving is attributed to the use of Meters in establishments which had hitherto paid by assessment.

It should be mentioned in this connection, that the reduction, three years ago, of meter rates (then ranging from 6 to 10 cents) to a uniform rate of 6 cents per 1,000 gallons, caused a shrinkage of \$5,000 annually in this class of accounts, but the Commissioners not only felt justified in this action, in order that all manufacturers be placed upon the same basis, but they incline to the opinion that a still further reduction should be made in the meter rate as soon as circumstances will admit of it.

In presenting this report, marking as it does a period of thirty years in the history of the Department, more than ordinary attention has been paid to its preparation and compilation, and we trust the same will be favorably received and appreciated.

The property under our care is in first-class shape and condition, with exception of the boilers referred to, and it is our pride and pleasure to keep everything in a neat, clean and orderly manner, so that no one need be ashamed to take their friends and visitors to the pumping station or reservoir, which are everywhere considered among places of interest ; and while we do not claim to have done more than our duty, which we have endeavored to perform faithfully and conscientiously, we believe the Erie Water Department will compare favorably with many of the best-managed institutions of like character in other parts of the country.

Yours respectfully,

| | |
|------------------|---|
| T. W. SHACKLETT, | } Commissioners of Water Works, in the City of Erie. |
| WM. HARDWICK, | |
| CLARK OLDS, | |



JOHN C. SELDEN,
COMMISSIONER,
1868-1871.

HISTORY OF WATER WORKS AT ERIE, PENN'A.

ERIE, PA., Dec. 31, 1896.

To the Commissioners of Water Works in the City of Erie, Pa.

GENTLEMEN:—At your request I submit the following account of the first water introduced into the then Borough of Erie and of the construction of the present Water Works.

From the settlement of the town up to 1841 the only water for fire purposes was the wells; and the streams running through the town. In 1841 wooden pipes were laid to the springs on the Reed farm south of Eighteenth street and tanks built in the streets near the street corners, which were kept filled by the pipes. This spring water was also used to a small extent for house use.

The records show that on April 16th, 1841, a petition was presented to the Councils by the Hon. Thos. H. Sill and others asking Councils "to take immediate measures to bring water into the Borough as a protection against fire." On June 11th Councils authorized the Town Clerk "to advertise for bids for bringing the water into town in wooden logs."

On June 22d Rufus S. Reed and Thos. G. Colt were appointed a committee "to enquire for what amount they could get the water brought into town from the Reed springs;" and June 25th, the same committee was authorized "to contract for bringing the water into town in wooden logs and devise ways and means to defray the expense."

The work was completed during the summer and fall of 1841, as the last record of payment to the contractors was November 27, 1841. These Water Works were in operation until the completion of the present works; but were very inefficient and afforded protection to only a small portion of the city. There was some discussion of new Water Works in 1865 and 1866, and on February 11, 1867, Mr. Jno. M. Kuhn introduced a resolution to ask the Legislature "to authorize the Councils of the City of Erie to issue bonds for three hundred thousand dollars to be appropriated

to the erection of Water Works." The resolution was lost, only two members of the Council, Messrs. Kuhn and Loverin, voting for it.

Previous to this date a Water and Gas Company had been organized in the city, and on March 11, 1867, the Mayor was authorized by the Councils to enter into a contract with the said company to furnish the city fifty fire plugs for the term of twenty years for nine thousand dollars per year, being \$180.00 per plug per year.

This contract provided that the city might purchase the works of the Water and Gas Company, at any time within five years, by paying the said company cost and interest, and it also provided that if the city commenced the erection of Water Works within one year the contract was to be null and void; but the city to pay the Water and Gas Company any amount expended by them and interest. Fortunately for the interests of the city they did commence the construction of Water Works within the year, for at the rate agreed upon in that contract the city would now be paying the Water and Gas Company nearly \$90,000.00 per year for fire and other purposes, and its citizens would be paying largely increased rates.

On February 23, 1867, the Councils, in joint session, approved a bill, presented by Judge Vincent, to be presented to the Legislature authorizing the city to construct Water Works, and directed the clerk to certify the action of Councils to our Senator and Representatives and request that the same be enacted and become a law.

The act authorizing the City of Erie to construct water works, and empowering the Judges of the Court of Common Pleas to appoint three Water Commissioners to construct and operate said works, passed the Legislature and was approved by the Governor April 4, 1867.

At the May term, of 1867, Judge Vincent appointed Wm. L. Scott for one year, Henry Rawle for two years and myself for three years as Water Commissioners for the City of Erie, and on the 14th day of June we met and organized the commission and appointed Wm. Brewster secretary.

Previous to this the Water and Gas Company had engaged Mr. H. P. M. Birkinbine, of Philadelphia, to make them a plan and estimate of Water Works, and this plan formed the basis of the plan of the present work. But after visiting Buffalo, Cleveland, Detroit and Pittsburg the Commissioners decided to dispense with a stand pipe and adopt the Detroit plan of a tower and tank, and on July 22, 1867, they so reported to Councils and asked for an appropriation of \$250,000.00 which request was approved by Councils and the bonds ordered issued and delivered to the Water Commissioners as they were needed in the construction of the Works.

Subsequently the Commissioners decided to make all the work done by them a part of a general plan that in the future would supply South Erie, then a borough, and abandoned the tower and tank plan and adopted the stand pipe plan.

On September 27, 1867, the Mayor and a committee of the Councils met the Water Commissioners and fixed the price of the bonds at 85 cents on the dollar, and on September 28th the Commissioners made a requisition on the Councils for \$50,000.00 of bonds sold to General C. M. Reed. This was the first sale of all bonds, of which were sold at 85 cents, except about \$15,000.00 which a Committee of Councils authorized the sale of at 80 cents on April 20, 1869.

The price of the bonds was fixed by the city and for the heavy loss from discount on them the Commissioners were in no way responsible, and if previous to, and during, the construction of the works the city finances had been properly managed, and its interest and liabilities promptly paid in cash, the bonds could readily have been sold at par.

On November 16, 1867, the Commissioners applied to Councils for water lots 136 to 140 inclusive, and the request was granted, and on the same day the bid of M. C. Boyer & Co., for two Cornish Bull Engines, and boilers and pumps complete for the sum of \$55,000.00 was accepted.

On December 16, 1867, the contract for the stand pipe was let to the Erie City Iron Works, and it was erected in place the following summer.



MATTHEW R. BARR,
COMMISSIONER.
1872-1876.

This work, raised in place by a new and ingenious plan devised by the late Geo. Selden, Esq., deserves fuller notice. A strong derrick, about sixty feet high, was built and securely guyed. This was planked over the top, and about twelve feet from the bottom, and in the center a circle was cut out large enough to let the pipe pass through; then with heavy tackle the pipe was raised as each ring was riveted and another ring slipped under the pipe, commencing with the top ring and finishing with the bottom ring of the pipe. After the pipe projected above the derrick, guys were put on it and kept taut, except when loosened to raise the pipe to slip under another ring. The critical time, after the pipe projected from one hundred to one hundred and sixty feet above the derrick, was in slackening the guys to raise the pipe and slip under another ring. But the work was done without an accident and delivered to the Commissioners in better condition than if subjected to the strains incident to the usual way of erecting stand pipes.

On January 15, 1868, the engine house, boiler house and stack, and the masonry and brick work of the stand pipe, was let to John M. Kuhn and completed in the summer of that year, except the brick work of the stand pipe, which was built the following year.

During 1867, and the following year, there was considerable opposition developed against taking the water from the Bay. Some persons insisting that we should take the water from the springs and streams south of the city. Others that we should go to Lake Pleasant. My answer to the first proposition was that in a few years the city would require much more water than it was possible to obtain from the springs and streams; and, as to Lake Pleasant, there was no evidence that its waters were any purer than those of the Bay; that it would cost a large amount more to bring the water from Lake Pleasant than to establish pumping works to pump it from the Bay, and that the act under which the Commissioners were appointed required them to take the water from the Lake or Bay, and that they had no authority to take the water from either the springs or Lake Pleasant, and would be individually liable for every dollar they expended on either of these projects.

In the fall of 1867 bids were advertised for 800 tons of pipe of various sizes and the necessary bends, T's and crosses, but the lowest bid being \$79.00 per ton, none of the bids were accepted and subsequently the Commissioners made a contract for the pipe with Walter J. F. Liddell at \$78.25 per ton, he agreeing to start pipe works and make the pipe in Erie.

During the summer and fall of this year the city was engaged in laying Nicholson pavement around the Parks, and pipe was obtained through the Erie Gas Company, and the pipe laid and house connections put in around the Park, and also on Peach street, between the Parks and Twelfth street.

The timber crib for the inlet was let to James Dunlap and completed in the summer of 1868, and the Pumping Works were completed and put in operation in November, 1868.

May 2, 1870, the Commissioners reported to Councils in favor of the building of a Reservoir and suggested the purchase of the only available site, that of Cochran's woods.

It was in 1872 that the first State Fair was held in Erie, and a pipe had been laid from Eighteenth street to the Fair Grounds to supply water during the Fair, when one day Mr. Kincaid reported to me that the valve chamber of the west engine had broken and he had started up the east engine. I telegraphed Mr. Birkinbine to have Boyer cast another valve chamber as quickly as possible. A week or two afterwards Mr. Kincaid came to my house one Sunday forenoon and told me the other valve chamber was broken. I went at once to the Works and found a crack started in the valve chamber, but not as bad a one as in the west engine valve chamber, and ordered him to unload the engine to 60 pounds to the square inch and start it up. He protested that if I had the engine started the valve chamber would smash up. I told him it would be no worse for the city to be out of water with both engines smashed than to have one smashed and we afraid to run the other, and to start her up on a pressure of 60 pounds. This gave us pressure sufficient to supply the Fair Grounds and we continued to run the engine until after the close of the Fair, it being late in the fall when we got a new valve chamber in the west engine.

These expensive breakages were the result of an error in construction. The valve chamber was bedded on the rock and the air chamber was seated on a brick wall and connected with the valve chamber with flanges and bolts. The constant jar of the engine had settled the brick work and the air chamber and several tons of pumping main was hanging on the flanges with which they were bolted to the valve chamber.

In replacing the valve chambers I changed the plan and connected the valve and air chambers with a lead joint that allowed for settling, and also put stone caps on the brick piers, and with these improvements there is no probability of a similar accident to these engines.

About this time there was a committee of leading citizens formed to suggest improvements in the City Charter. I went before the the committee and urged them to recommend an amendment authorizing the Water Commissioners to levy a tax of 75 cents per foot on each side of all streets on which pipe had been, or might hereafter be laid, urging on them the impracticability of the city furnishing money to lay pipe on all the streets on which there were calls for pipe and the rank injustice of taxing those to whom the facilities of obtaining water were denied, to pay for the pipe laid in the streets on which their more fortunate neighbors lived. But I found it impossible to get the consent of the committee to such a proposition.

I also suggested that the President of the Commission be a salaried office, and he be paid \$2,000.00 per year, and give his entire time to the supervision of the Works, and the other Commissioners be paid as at present. They asked me if I was fixing up a berth for myself. I told them I was advising what I thought for the best interests of the city and pledged myself to resign on the day such a provision became a law.

These are the only amendments, so far as I know, that were ever proposed to the act authorizing the Water Commission, and unfortunately, as I think, for the city, they were not favorably received.

In September, 1872, the Councils appropriated \$125,000.00 for the construction of a Reservoir, and the timber was cleared off that

fall, and the Reservoir constructed the next year, with the exception of sodding the slopes, which was finished in 1874.

With the completion of the Reservoir the Works were practically completed on the original plan, and there only remained the annoying question of pipe extension which I hope has not given the Commissioners as much trouble in later years as it did during the twelve years I was connected with the Commission.

My associates on the Commission were Wm. L. Scott, Henry Rawle, John C. Selden. John Gensheimer, M. R. Barr, Michael Liebel and J. M. Bryant.

Respectfully yours, etc.,

WM. W. REED.

Commissioners of Water Works, in the City of Erie, and Officers, from Organization to Dec. 31, 1896.
 The Commissioners of Water Works, in the City of Erie are appointed by the Court of Common Pleas of Erie County, Pa., for a term of three years, one member being named annually, in May.

| Commissioners. | | | President. | Secretary & Treasurer. | Assistant Secretary. |
|----------------|------------------|-------------------|--------------------|------------------------|----------------------|
| 1867 | *W. L. Scott, | Henry Rawle, | Wm. W. Reed, | Wm. Brewster, | ..... |
| 1868 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, | Wm. Brewster, | ..... |
| 1869 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1870 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1871 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1872 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1873 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1874 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1875 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1876 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1877 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1878 | Michael Liebel, | *J. M. Bryant, | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1879 | Michael Liebel, | *J. M. Bryant, | *G. W. F. Sherwin, | Michael Liebel, | ..... |
| 1880 | Michael Liebel, | *J. M. Bryant, | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1881 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1882 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1883 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1884 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1885 | Michael Liebel, | Benjamin Whitman, | Geo. W. Starr, | Benjamin Whitman, | Geo. C. Gensheimer, |
| 1886 | C. Kessler, | Benjamin Whitman, | Geo. W. Starr, | Benjamin Whitman, | Geo. C. Gensheimer, |
| 1887 | C. Kessler, | C. J. Brown, | Geo. W. Starr, | Geo. W. Starr, | Geo. C. Gensheimer, |
| 1888 | C. Kessler, | C. J. Brown, | Geo. W. Starr, | Geo. W. Starr, | Geo. C. Gensheimer, |
| 1889 | C. Kessler, | C. J. Brown, | Geo. W. Starr, | Geo. W. Starr, | Geo. C. Gensheimer, |
| 1890 | C. Kessler, | C. J. Brown, | Geo. W. Starr, | Geo. W. Starr, | Geo. C. Gensheimer, |
| 1891 | C. Kessler, | C. J. Brown, | Wm. Hardwick, | C. J. Brown, | Geo. C. Gensheimer, |
| 1892 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, | C. J. Brown, | Geo. C. Gensheimer, |
| 1893 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer, |
| 1894 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer, |
| 1895 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer, |
| 1896 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer, |

* Dead.

† Mr. Selden resigned before the expiration of his second term; Mr. Barr was substituted by the other Commissioners, and afterwards appointed by the Court.

‡ C. J. Brown resigned December 28, 1895, having been elected Treasurer of Erie County, Pa. Clark Olds was chosen by the other Commissioners, for the unexpired term, on the recommendation of the Court, January 2, 1896.

NOTE.—Mr. Brewster was elected June 14, 1867; resigned October 26, 1868; served 1 year, 4 months and 12 days. Mr. Perkins was elected June 14, 1867; resigned March 30, 1878; same accepted December 21, 1878, to take effect January 1, 1879; served 10 years, 2 months and 5 days. Mr. Sloan was elected January 1, 1879; continued in office to June 1, 1891; served 12 years and 5 months. Mr. Himrod was appointed Secretary May 23, 1891, to take effect June 1, 1891. Mr. Gensheimer was appointed Assistant Secretary January 26, 1884.



JOHN GENSHEIMER,
COMMISSIONER,
1872-1877.

**Monthly Receipts from all Sources During the Year
Ending December 31, 1896.**

| Month. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|----------------|-------------|-------------|----------|-----------|-----------|--------------|
| January..... | \$21,118 98 | \$ 5,679 87 | \$ 9 92 | \$ 123 19 | \$ 35 21 | \$ 26,967 17 |
| February..... | 2,428 71 | 356 77 | 6 26 | 38 95 | 15 42 | 2,846 11 |
| March..... | 270 50 | 15 47 | 6 25 | 7 33 | 54 77 | 354 32 |
| April..... | 21,221 55 | 5,062 85 | 28 42 | 12 31 | 91 66 | 26,416 79 |
| May..... | 2,469 26 | 480 76 | 21 70 | 53 56 | 107 23 | 3,132 51 |
| June..... | 464 70 | 535 28 | 18 17 | 12 32 | 94 74 | 1,125 21 |
| July..... | 21,963 84 | 4,970 36 | 17 98 | 36 83 | 37 48 | 27,026 49 |
| August..... | 2,014 39 | 710 43 | 19 40 | 3 81 | 51 41 | 2,799 44 |
| September..... | 247 17 | 123 78 | 73 22 | 44 47 | 167 37 | 656 01 |
| October..... | 21,390 27 | 5,697 61 | 24 59 | 99 69 | 51 20 | 27,263 36 |
| November..... | 2,583 25 | 94 77 | 16 17 | 29 92 | 49 84 | 2,773 95 |
| December..... | 79 81 | 404 62 | 43 23 | 39 99 | 16 30 | 583 95 |
| Total..... | \$96,252 43 | \$24,132 57 | \$285 31 | \$502 37 | \$772 63 | \$121,945 31 |

**Receipts from Each Ward During the Year Ending
December 31, 1896.**

| Ward. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|--------------|-------------|-------------|----------|-----------|-----------|--------------|
| First..... | \$12,903 43 | \$ 3,385 05 | \$ 31 62 | \$ 16 66 | \$ 65 44 | \$ 16,402 20 |
| Second..... | 21,124 23 | 11,574 38 | 52 68 | 72 47 | 176 54 | 33,000 30 |
| Third..... | 23,491 20 | 3,745 54 | 101 60 | 160 25 | 205 14 | 27,703 73 |
| Fourth..... | 18,672 66 | 1,163 71 | 53 21 | 128 74 | 129 16 | 20,147 48 |
| Fifth..... | 8,658 95 | 2,980 52 | 23 50 | 8 69 | 76 97 | 11,748 63 |
| Sixth..... | 10,569 28 | 785 07 | 11 45 | 23 63 | 88 93 | 11,478 36 |
| Seventh..... | 832 68 | 498 30 | 11 25 | 91 93 | 30 45 | 1,464 61 |
| Total..... | \$96,252 43 | \$24,132 57 | \$285 31 | \$502 37 | \$772 63 | \$121,945 31 |



**JOHN GENSHEIMER,
COMMISSIONER,
1872-1877.**

**Monthly Receipts from all Sources During the Year
Ending December 31, 1896.**

| Month. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|-------------------|--------------------|--------------------|-----------------|-----------------|-----------------|---------------------|
| January..... | \$21,118 98 | \$ 5,679 87 | \$ 9 92 | \$ 123 19 | \$ 35 21 | \$ 26,967 17 |
| February | 2,428 71 | 356 77 | 6 26 | 38 95 | 15 42 | 2,846 11 |
| March..... | 270 50 | 15 47 | 6 25 | 7 33 | 54 77 | 354 32 |
| April..... | 21,221 55 | 5,062 85 | 28 42 | 12 31 | 91 66 | 26,416 79 |
| May..... | 2,469 26 | 480 76 | 21 70 | 53 56 | 107 23 | 3,132 51 |
| June..... | 464 70 | 535 28 | 18 17 | 12 32 | 94 74 | 1,125 21 |
| July..... | 21,963 84 | 4,970 36 | 17 98 | 36 83 | 37 48 | 27,026 49 |
| August..... | 2,014 39 | 710 43 | 19 40 | 3 81 | 51 41 | 2,799 44 |
| September..... | 247 17 | 123 78 | 73 22 | 44 47 | 167 37 | 656 01 |
| October | 21,390 27 | 5,697 61 | 24 59 | 99 69 | 51 20 | 27,263 36 |
| November..... | 2,583 25 | 94 77 | 16 17 | 29 92 | 49 84 | 2,773 95 |
| December..... | 79 81 | 404 62 | 43 23 | 39 99 | 16 30 | 583 95 |
| Total..... | \$96,252 43 | \$24,132 57 | \$285 31 | \$502 37 | \$772 63 | \$121,945 31 |

**Receipts from Each Ward During the Year Ending
December 31, 1896.**

| Ward. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|-------------------|--------------------|--------------------|-----------------|-----------------|-----------------|---------------------|
| First..... | \$12,993 43 | \$ 3,385 05 | \$ 31 62 | \$ 16 66 | \$ 65 44 | \$ 16,402 20 |
| Second..... | 21,124 23 | 11,574 38 | 52 68 | 72 47 | 176 54 | 33,000 30 |
| Third..... | 23,491 20 | 3,745 54 | 101 60 | 160 25 | 205 14 | 27,703 73 |
| Fourth..... | 18,672 66 | 1,163 71 | 53 21 | 128 74 | 129 16 | 20,147 48 |
| Fifth..... | 8,658 95 | 2,980 52 | 23 50 | 8 69 | 76 97 | 11,748 63 |
| Sixth..... | 10,569 28 | 785 07 | 11 45 | 23 63 | 88 93 | 11,478 36 |
| Seventh..... | 832 68 | 498 30 | 11 25 | 91 93 | 30 45 | 1,464 61 |
| Total..... | \$96,252 43 | \$24,132 57 | \$285 31 | \$502 37 | \$772 63 | \$121,945 31 |



**MICHAEL LIEBEL,
COMMISSIONER,
1877-1885.**

Cash Account of Secretary and Treasurer of Commissioners of Water Works, in the City of Erie, for the Year Ending December 31, 1896.

| Month. | Receipts. | Deposited with Treasurer City of Erie. | Balance in Office at Close of Business each month. |
|-------------------|---------------------|--|--|
| January..... | \$ 26,967 17 | \$ 24,571 51 | \$2,395 66 |
| February..... | 2,846 11 | 5,163 23 | 78 54 |
| March..... | 354 32 | 338 11 | 94 75 |
| April..... | 26,416 79 | 23,395 87 | 3,115 67 |
| May..... | 3,132 51 | 6,200 60 | 47 58 |
| June..... | 1,125 21 | 1,044 55 | 128 24 |
| July..... | 27,026 49 | 24,959 29 | 2,195 44 |
| August..... | 2,799 44 | 4,875 64 | 119 24 |
| September..... | 656 01 | 734 56 | 40 69 |
| October..... | 27,263 36 | 23,311 94 | 3,992 11 |
| November..... | 2,773 95 | 6,659 79 | 106 27 |
| December..... | 583 95 | 690 22 | ..... |
| Total..... | \$121,945 31 | \$121,945 31 | ..... |

Statement of Account with Treasurer of the City of Erie, for the Year Ending December 31, 1896.

| Month. | Received from Secretary and Treasurer Commissioners of Water Works, in the City of Erie. | Paid on Warrants of Commissioners of Water Works, in the City of Erie. | Monthly Balances. |
|------------------------|--|--|-------------------|
| Balance from 1895..... | \$ 4,921 45 | ..... | ..... |
| January..... | 24,571 51 | \$ 21,202 82 | \$ 8,290 14 |
| February..... | 5,163 23 | 7,260 04 | 6,193 33 |
| March..... | 338 11 | 715 97 | 5,815 47 |
| April..... | 23,395 87 | 11,092 37 | 18,118 97 |
| May..... | 6,200 60 | 9,476 35 | 14,843 22 |
| June..... | 1,044 55 | 13,497 51 | 2,390 26 |
| July..... | 24,959 29 | 16,391 87 | 10,957 68 |
| August..... | 4,875 64 | 13,657 70 | 2,175 62 |
| September..... | 734 56 | 2,232 83 | 677 35 |
| October..... | 23,311 94 | 11,442 67 | 12,546 62 |
| November..... | 6,659 79 | 12,325 54 | 6,880 87 |
| December..... | 690 22 | 6,935 80 | 635 29 |
| Total..... | \$126,866 76 | \$126,231 47 | ..... |



**JONATHAN M. BRYANT,
COMMISSIONER,
1878-1880.**

Amount of Water Rents Collected Each Year, with the Increase and Decrease Since the Commencement of the Works.

| YEAR. | Amount Rec'd. | Increase. | Decrease. |
|--|-----------------------|------------|------------|
| From Jan. 1, 1869, to Dec. 31, 1869..... | \$ 4 264 47 | | |
| " " 1870, to " 1870..... | 9,237 30 | \$4,972 83 | |
| " " 1871, to " 1871..... | 18,138 08 | 8,900 78 | |
| " " 1872, to " 1872..... | 21,652 68 | 3,514 60 | |
| " " 1873, to " 1873..... | 25,560 40 | 3,907 72 | |
| " " 1874, to " 1874..... | 27,938 90 | 2,378 50 | |
| " " 1875, to " 1875..... | 29,639 38 | 1,700 48 | |
| " " 1876, to " 1876..... | 31,048 76 | 1,409 38 | |
| " " 1877, to " 1877..... | 32,276 57 | 1,227 81 | |
| " " 1878, to " 1878..... | 29,636 01 | | \$2,640 56 |
| " " 1879, to " 1879..... | 33,343 20 | 3,707 19 | |
| " " 1880, to " 1880..... | 37,385 00 | 4,041 80 | |
| " " 1881, to " 1881..... | 40,385 87 | 3,000 87 | |
| " " 1882, to " 1882..... | 43,818 73 | 3,432 86 | |
| " " 1883, to " 1883..... | 48,269 89 | 4,451 16 | |
| " " 1884, to " 1884..... | 51,852 78 | 3,582 89 | |
| " " 1885, to " 1885..... | 53,550 35 | 1,697 57 | |
| " " 1886, to " 1886..... | 58,725 00 | 5,174 65 | |
| " " 1887, to " 1887..... | 67,121 92 | 8,396 92 | |
| " " 1888, to " 1888..... | 73,197 03 | 6,075 11 | |
| " " 1889, to " 1889..... | 81,110 68 | 7,913 65 | |
| " " 1890, to " 1890..... | 87,279 96 | 6,169 28 | |
| " " 1891, to " 1891..... | 93,891 55 | 6,611 59 | |
| " " 1892, to " 1892..... | 105,527 03 | 11,635 48 | |
| " " 1893, to " 1893..... | 111,247 43 | 5,720 40 | |
| " " 1894, to " 1894..... | 111,821 94 | 574 51 | * |
| " " 1895, to " 1895..... | 116,927 63 | 5,105 69 | |
| " " 1896, to " 1896..... | 121,442 94 | 4,515 31 | |
| TOTAL..... | \$1,566,291 48 | | |

* Meter rates for water changed from a sliding scale of 6 cents to 10 cents per 1,000 gallons, according to amount consumed, to a flat rate of 6 cents per 1,000 gallons, causing a reduction in receipts of \$5,000.00.

RATES FOR CITY WATER.

Approved by Select Council Aug. 19, 1895. Approved by Common Council Sept. 16, 1895.
Approved by the Mayor Sept. 21, 1895.

ALL ARE ANNUAL EXCEPT AS OTHERWISE INDICATED, AND PAYABLE QUARTERLY IN ADVANCE.

| | | |
|--|----------|-------|
| Air Pump..... | \$ | 3 00 |
| Bath Tub—Private (one family) first tub..... | | 3 00 |
| Bath Tub—Private (one family) each additional tub..... | | 1 50 |
| Bath Tub—Public, each tub..... | | 5 00 |
| Bakery, per barrel of flour used (but no charge less than \$5)..... | | 01 |
| Barber Shop, first chair, including hand basin..... | | 4 00 |
| Barber Shop, each additional chair, including hand basin..... | | 2 00 |
| Billiard Tables, each..... | | 1 00 |
| Blacksmith Fire, first fire..... | | 5 00 |
| Blacksmith Fire, each additional fire..... | | 2 50 |
| Boarding House, (in addition to family rates) per room..... | | 1 00 |
| Building Purposes, per bushel of lime; to be paid before work is begun..... | | 02 |
| Butcher Stalls..... | 3 00 to | 15 00 |
| Charitable institutions, one-third annual rates..... | | |
| Cow..... | | 75 |
| Condensing Boiler for Steam Heating, (per season of 6 months) per horse power..... | | 25 |
| Eating Houses..... | 5 00 to | 25 00 |
| Family..... | | 5 00 |
| Fire Protection Fixtures, testing same, thirty (30) minutes or less..... | | 3 00 |
| Fire Protection Fixtures, testing same, one (1) hour or less, but more than thirty (30) minutes..... | | 5 00 |
| Flushing Sewers, settling earth in ditches or purposes of like nature, per hour or fractional part of an hour, each..... | | 5 00 |
| Hand Basins in dwellings, hotels and schools, first basin..... | | 1 00 |
| Hand Basins in dwellings, hotels and schools, each additional basin..... | | 50 |
| Hand Basins in offices, stores and blocks, each..... | | 1 00 |
| Hotels, (in addition to family rates) per room..... | | 1 00 |
| Laundry, shop..... | | 5 00 |
| Laundry, wash tub, stationary, each..... | | 2 00 |
| Laundry, revolving washer, each..... | | 5 00 |
| Livery Stable, per horse..... | | 2 00 |
| Offices..... | 3 00 to | 10 00 |
| Private Stable, one or two horses..... | | 2 00 |
| Private Stable, each additional horse over two..... | | 1 00 |
| Printing Offices..... | 5 00 to | 30 00 |
| Public Halls..... | 5 00 to | 25 00 |
| Saloons..... | 5 00 to | 25 00 |
| School, per pupil (in addition to fixtures)..... | | 10 |
| Slaughter Houses..... | 5 00 to | 50 00 |
| Sleeping Rooms, each..... | | 1 00 |
| Sprinkling Streets or Lawns with Hose, Per SEASON: | | |
| Corner lot, 41 feet front or less..... | | 5 00 |
| Inside lot, 41 feet front or less..... | | 3 00 |
| For each additional foot front to either corner or inside lot..... | | 05 |
| Steam Engines, ten hours per day, each Horse Power..... | | 2 50 |
| Stores..... | 3 00 to | 15 00 |
| Urinal, private, self-closing (one family)..... | | 2 00 |
| Urinal, private, not self-closing (one family)..... | | 6 00 |
| Urinal, public, self-closing..... | | 3 00 |
| Urinal, public, not self-closing..... | | 10 00 |
| Urinal, private or public, continuous flow..... | 10 00 to | 30 00 |
| Wash Tub, stationary, first tub (one family)..... | | 2 00 |
| Wash Tub, stationary, each additional tub, (one family)..... | | 1 00 |
| Water Closet, pan or tank (one family) private..... | | 3 00 |
| Water Closet, pan or tank (one family) each addition water closet..... | | 1 50 |
| Water Closet, pan or tank, public, each..... | | 5 00 |
| Water Closet, hopper, (one family) private, for each water closet..... | | 6 00 |
| Water Closet, hopper, public, for each water closet..... | | 10 00 |
| Work Shop, ordinary use..... | 3 00 to | 5 00 |

All other uses, when not metered, to be assessed by the Commissioners.

The sprinkling season is from May 1st to November 1st in each year.

There is no fractional part of a sprinkling season.

It will cost as much to sprinkle but once at any time during the sprinkling season as it will to sprinkle each day at the prescribed hours during the entire season.

Sprinkling must be confined to the hours between 5 and 8 A. M., 12 and 1 P. M., and 5 and 8 P. M., nor during said intervals more than one hour at a time. Persons who exceed one hour may be charged at fountain rates, or held liable for violation of the rules, at the option of the Commissioners.

Meter Rates.

| | |
|---|---------|
| Six (6) cents for each one thousand (1,000) gallons by meter measurement, <i>Provided</i> the minimum receipts per quarter shall be for a | |
| ¾-inch or less..... | \$3 75 |
| 1-inch..... | 4 50 |
| 1½-inch..... | 6 25 |
| 2-inch..... | \$10 00 |
| 3-inch..... | 18 75 |
| 4-inch..... | 38 75 |

Statement of Warrants Issued in 1896.

January.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|------------|------|-----------------------------------|--------------------------------------|-------------|
| 4 | 7686 | Wm. F. Nick..... | Oil..... | \$ 1 70 |
| | 7697 | C. Kewler..... | Lye and mop handles..... | 2 10 |
| | 7698 | Thomas Pickering..... | Carriage hire..... | 10 50 |
| | 7699 | E. J. Riblet..... | Shop rent (for January, 1896)..... | 20 00 |
| | 7700 | E. McK. Whitley..... | Coke and coal..... | 26 10 |
| | 7701 | James L. Firman..... | Cats and corn..... | 26 68 |
| | 7702 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 308 28 |
| | 7703 | The Addyston Pipe & Steel Co..... | Sixty-inch pipe..... | 5,000 00 |
| 11 | 7704 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 149 25 |
| | 7705 | The Addyston Pipe & Steel Co..... | Sixty-inch pipe..... | 5,000 00 |
| 13 | 7706 | J. O. Baker..... | Work on buildings and grounds..... | 5 43 |
| | 7707 | A. Brugger..... | Wooden plugs..... | 5 50 |
| | 7708 | W. De Witt Himrod..... | Stationery..... | 25 20 |
| | 7709 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 183 41 |
| | 7710 | The Addyston Pipe & Steel Co..... | Sixty-inch pipe..... | 5,000 00 |
| | 7711 | D. P. Murphy..... | Mason work..... | 31 25 |
| 25 | 7712 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 147 42 |
| | 7713 | Lake Shore & M. S. Ry. Co..... | Freight..... | 260 00 |
| 29 | 7714 | The Addyston Pipe & Steel Co..... | Sixty-inch pipe..... | 5,000 00 |
| Total..... | | | | \$21,202 82 |

February.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------------------------------------|--|--|---------|
| 1 | 7715 | Keystone Electric Co..... | Repairs and brushes..... | \$ 2 00 |
| | 7716 | Times, Graphic & Observer..... | Advertising..... | 4 00 |
| | 7717 | Herald Ptg. & Pub. Co..... | Advertising..... | 5 00 |
| | 7718 | Held, Gorenflo & Co..... | Advertising..... | 5 00 |
| | 7719 | Flickinger Roof & Cor. Co., Lt'd..... | Torches and zinc..... | 5 70 |
| | 7720 | James L. Firman..... | Teaming..... | 7 12 |
| | 7721 | J. N. Blaisdell..... | Shoeing horses..... | 8 00 |
| | 7722 | J. O. Baker..... | Material and labor..... | 8 54 |
| | 7723 | E. McK. Whitley..... | Coal..... | 10 00 |
| | 7724 | Erie Dispatch..... | Advertising and Paper..... | 10 10 |
| | 7725 | Ashby & Vincent..... | Books..... | 10 25 |
| | 7726 | Edison Construct. & Supply Dept..... | Lamps, etc..... | 11 01 |
| | 7727 | A. S. Pinner..... | Hardware..... | 14 46 |
| | 7728 | E. J. Riblet..... | Shop rent (for February, 1896)..... | 20 00 |
| | 7729 | Geo. C. Gensheimer, Asst. Secy..... | Sundries..... | 21 27 |
| | 7730 | South Erie Iron Works..... | Castings..... | 26 19 |
| | 7731 | John J. O'Brien..... | Printing..... | 40 28 |
| | 7732 | Erie Mfg. & Supply Co..... | Packing, gaskets, etc..... | 45 10 |
| | 7733 | R. D. Wood & Co..... | Valve stems..... | 48 00 |
| | 7734 | N. Y. & P. Telephone & Tel. Co..... | Telephone Rentals..... | 54 25 |
| | 7735 | Globe Iron Foundry Co..... | Castings..... | 54 72 |
| | 7736 | Atlantic Refining Co..... | Oil..... | 62 56 |
| | 7737 | Bay State Iron Works, Lt'd..... | Repairing boilers..... | 92 45 |
| | 7738 | Chas. S. Clarke, Postmaster..... | Postal cards..... | 100 00 |
| | 7739 | Hays Manufacturing Co..... | Brass couplings and fittings..... | 120 87 |
| | 7740 | Erie Machine Shop..... | Repairs of Engine and Boilers..... | 135 33 |
| | 7741 | Robt. J. Saltzman..... | Coal..... | 305 84 |
| | 7742 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 580 00 |
| 7743 | Pay Roll—Office and Inspectors.... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 1,041 66 | |

REPORT OF THE COMMISSIONERS OF

February—Continued.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|------------|------------------------------------|--|-------------|
| 1 7744 | Atlantic Refining Co..... | Oil..... | \$ 26 00 |
| 7745 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk... | 184 25 |
| 8 7746 | Geo. C. Gensheimer, Asst. Sec.. | Sundries..... | 31 16 |
| 7747 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk... | 158 24 |
| 15 7748 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk... | 150 90 |
| 21 7749 | D. P. Murphy..... | Mason work..... | 66 75 |
| 7750 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk... | 182 12 |
| 25 7751 | C. J. Brown..... | Hay..... | 20 84 |
| 29 7752 | C. Flickinger..... | Lanterns..... | 2 15 |
| 7753 | Wm. F. Nick..... | Oil and paint..... | 2 70 |
| 7754 | Thomas Pickering..... | Horse hire..... | 3 00 |
| 7755 | National Meter Co..... | Meter repairs..... | 3 50 |
| 7756 | Keystone Electric Co..... | Repairs and brushes..... | 3 75 |
| 7757 | Thomson Meter Co..... | Extension dials..... | 4 00 |
| 7758 | Albrecht, Shaughnessy & Stephenson | Plumbing..... | 4 80 |
| 7759 | J. N. Blaisdell..... | Shoeing horses..... | 5 00 |
| 7760 | Globe Iron Foundry Co..... | Castings..... | 6 31 |
| 7761 | A. S. Pinney..... | Hardware..... | 8 01 |
| 7762 | Union Water Meter Co..... | Extension dials..... | 9 00 |
| 7763 | Flickinger Roof, & Cor. Co., Ltd.. | Sheet copper..... | 10 40 |
| 7764 | C. Franklin, Agent..... | Hay and straw..... | 10 78 |
| 7765 | Emil Streuber..... | Sole Leather..... | 13 50 |
| 7766 | J. O. Baker..... | Material & labor, Eng. House No. 2.. | 15 33 |
| 7767 | Ashby & Vincent..... | Stationery..... | 15 55 |
| 7768 | Erie Mfg. & Supply Co..... | Packing, etc..... | 18 60 |
| 7769 | E. J. Riblet..... | Shop rent..... | 20 00 |
| 7770 | O. C. Thayer & Son..... | Fire brick and clay..... | 33 50 |
| 7771 | The Sims Co., Ltd..... | Injector..... | 33 95 |
| 7772 | Geo. C. Gensheimer, Asst. Secy.... | Sundries..... | 47 49 |
| 7773 | National Lead Co..... | Lead pipe and wiping solder..... | 74 05 |
| 7774 | Hayes Manufacturing Co..... | Cocks and fittings, etc..... | 97 82 |
| 7775 | Erie Oil Company..... | Oil..... | 99 20 |
| 7776 | Erie Machine Shop..... | Repairs on Boilers and Engines..... | 118 33 |
| 7777 | Bay State Iron Works, Ltd..... | Repairs on Boilers and Engines..... | 130 43 |
| 7778 | Wm. Hardwick..... | Services as Commissioner..... | 150 00 |
| 7779 | T. W. Shacklett..... | Services as Commissioner..... | 150 00 |
| 7780 | Clark Olds..... | Services as Commissioner..... | 150 00 |
| 7781 | Herald Ptg. & Pub. Co..... | Printing and cuts—Annual Report... | 215 46 |
| 7782 | Robt. J. Saltzman..... | Coal..... | 333 49 |
| 7783 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk.... | 157 62 |
| 7784 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 591 38 |
| 7785 | Pay Roll—Office and Inspectors.... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 1,041 66 |
| Total..... | | | \$ 7,230 04 |

March.

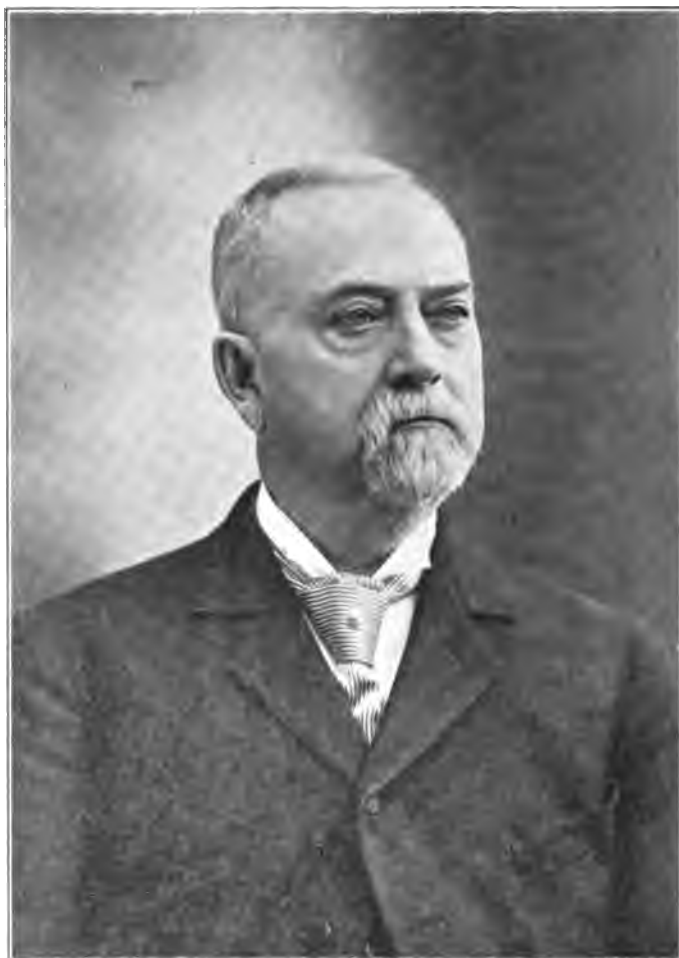
TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|------------|------------------------------------|-------------------------------------|-----------|
| 7 7786 | Henry Mayo & Son..... | Leather..... | \$ 3 00 |
| 7787 | Wm. Schade & Co..... | Blacksmith work..... | 3 20 |
| 7788 | Ashby & Vincent..... | Book covers and lettering..... | 6 55 |
| 7789 | Dispatch Ptg. & Eng. Co., Ltd..... | Printing..... | 16 00 |
| 7790 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk.... | 151 60 |
| 7791 | Georg. C. Gensheimer, Asst. Sec.. | Sundries..... | 18 46 |
| 14 7792 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk.... | 146 38 |
| 21 7793 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk.... | 174 60 |
| 28 7794 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk.... | 196 18 |
| Total..... | | | \$ 715 97 |

April.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|------------|------|------------------------------------|--|-------------|
| 1 | 7795 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 580 00 |
| | 7796 | Pay Roll—Office and Inspectors.... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 1,049 35 |
| 4 | 7797 | Saltsman & Austin..... | Sewer pipe..... | 1 11 |
| | 7798 | Thomas Pickering..... | Horse and wagon..... | 1 50 |
| | 7799 | Union Water Meter Co..... | Register extension..... | 1 50 |
| | 7800 | E. McK. Whitley..... | Coke..... | 1 90 |
| | 7801 | Mehl & Sapper..... | Hardware..... | 2 70 |
| | 7802 | Hollands Manufacturing Co..... | Die and Jaw..... | 2 49 |
| | 7803 | George Schlindwein..... | Harness repairs, etc..... | 2 50 |
| | 7804 | Flickinger Roof & Cor. Co., Lt'd. | Sheet Copper..... | 2 58 |
| | 7805 | O. C. Thayer & Son..... | Sewer pipe..... | 2 83 |
| | 7806 | F. R. Simmons..... | Tallow..... | 2 88 |
| | 7807 | Fire and Water..... | One year's subscription..... | 3 00 |
| | 7808 | C. Kessler..... | Brooms..... | 3 25 |
| | 7809 | Edison Electric Light & Power Co. | Light at shop..... | 3 42 |
| | 7810 | Burdett Organ Co., Lt'd. | Water rent returned..... | 3 75 |
| | 7811 | The Engineering News Pub. Co.... | One year's subscription..... | 5 00 |
| | 7812 | J. O. Baker..... | Repairs on boat, etc..... | 7 28 |
| | 7813 | Constable Bros..... | Material and labor, Engine No. 4..... | 7 39 |
| | 7814 | J. N. Blaisdell..... | Shoeing horses..... | 7 40 |
| | 7815 | Wm. F. Nick & Son..... | Oil, paint, varnish, etc..... | 9 35 |
| | 7816 | T. S. Buck..... | Rubber stamps, etc..... | 9 70 |
| | 7817 | Edison Construct. & Supply Dept. | Lamps, etc..... | 10 40 |
| | 7818 | A. S. Pinney..... | Hardware..... | 11 12 |
| | 7819 | H. F. Watson Co..... | Paper, covering, etc..... | 11 25 |
| | 7820 | Gingrich & Ohmer..... | Oats..... | 14 00 |
| | 7821 | E. J. Riblet..... | Shop rent (for April, 1906)..... | 20 00 |
| | 7822 | Erie Machine Shop..... | Repairing Boilers..... | 22 28 |
| | 7823 | Robt. T. Walker..... | Barn rent..... | 30 00 |
| | 7824 | John Hamberger..... | Insurance..... | 34 00 |
| | 7825 | Henry R. Worthington..... | Valves..... | 49 69 |
| | 7826 | F. P. Gill..... | Pattern and machine work..... | 55 70 |
| | 7827 | Atlantic Refining Co..... | Oil..... | 68 22 |
| | 7828 | National Meter Co..... | Meters..... | 90 00 |
| | 7829 | Erie Mfg. & Supply Co..... | Hose, Packing, Waste, etc..... | 108 33 |
| | 7830 | Hays Manufacturing Co..... | Brass couplings, fittings, etc..... | 126 40 |
| | 7831 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 267 14 |
| | 7832 | Robt. J. Saltsman..... | Coal..... | 473 80 |
| | 7833 | The Addyston Pipe & Steel Co..... | Sixty-inch pipe..... | 4,693 70 |
| 11 | 7834 | Geo. C. Gensheimer, Asst. Sec..... | Sundries..... | 14 78 |
| | 7835 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 311 27 |
| 13 | 7836 | J. O. Baker..... | Row boat..... | 70 00 |
| 18 | 7837 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 317 29 |
| 55 | 7838 | Geo. C. Gensheimer, Asst. Sec..... | Sundries..... | 65 30 |
| | 7839 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 407 81 |
| | 7840 | National Tube Works..... | $\frac{1}{2}$ inch galvanized pipe..... | 484 35 |
| 58 | 7841 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 580 00 |
| | 7842 | Pay Roll—Office and Inspectors.... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 1,041 66 |
| Total..... | | | | \$11,092 37 |



**WILLIAM BREWSTER,
SECRETARY AND TREASURER,
1867-1868.**

May.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|------------|--------------------------------------|---|-------------|
| 2 7843 | George Schlindwein..... | Repairs, whip, etc..... | \$ 1 20 |
| 7844 | The University of Penn'a Press..... | One year's subscription..... | 2 00 |
| 7845 | Atlantic Refining Co..... | Oil..... | 2 15 |
| 7846 | Fries Bros..... | Putting Meter on sprinkling cart..... | 2 50 |
| 7847 | Greger & Henning..... | Putting Meter on sprinkling cart..... | 2 50 |
| 7848 | Mehl & Sapper..... | Hardware..... | 2 50 |
| 7849 | Keystone Electric Co..... | Brushes..... | 3 00 |
| 7850 | E. Mek. Whitley..... | Coke..... | 3 20 |
| 7851 | Ashby & Vincent..... | Stationery..... | 4 10 |
| 7852 | O. C. Thayer & Son..... | Cement..... | 4 20 |
| 7853 | Jarecki Manufacturing Co., Lt'd..... | Hose couplings, etc..... | 4 45 |
| 7854 | Edison Construct. & Supply Dept..... | Lamps..... | 4 90 |
| 7855 | P. J. Schotten..... | Gravel..... | 5 65 |
| 7856 | J. N. Blaisdell..... | Shoeing horses..... | 6 40 |
| 7857 | C. Kessler..... | Soap and tallow..... | 7 54 |
| 7858 | Wm. F. Nick & Son..... | Paints, oil, etc..... | 7 73 |
| 7859 | Henry R. Worthington..... | Counter Extensions..... | 7 95 |
| 7860 | South Erie Iron Works..... | Castings..... | 8 03 |
| 7861 | Union Iron Works..... | Hoods for Boilers..... | 8 75 |
| 7862 | Henry Mayer..... | Repairing pavements..... | 9 47 |
| 7863 | J. Kretz, Agent..... | Old rope..... | 10 00 |
| 7864 | James L. Firman..... | Teaming..... | 10 35 |
| 7865 | Chas. Franklin, Agent..... | Oats..... | 13 50 |
| 7866 | Herald Ptg. & Pub. Co..... | Stationery..... | 13 50 |
| 7867 | Erie City Fertilizer Works..... | Fertilizer..... | 16 70 |
| 7868 | E. J. Riblet..... | Shop rent (for May, 1896)..... | 20 00 |
| 7869 | Erie Mfg. & Supply Co..... | Hose, Lawn mower, etc..... | 26 70 |
| 7870 | Lyman Felheim..... | Meter box and material..... | 28 89 |
| 7871 | A. S. Pinney..... | Hardware..... | 37 39 |
| 7872 | The Orient Electric Co..... | Lamps..... | 42 10 |
| 7873 | Erie Machine Shop..... | Repairs, Boiler and Engine..... | 44 13 |
| 7874 | Erie Oil Company..... | Oil..... | 111 72 |
| 7875 | Wm. Hardwick..... | Services as Commissioner..... | 150 00 |
| 7876 | T. W. Shacklett..... | Services as Commissioner..... | 150 00 |
| 7877 | Clark Olds..... | Services as Commissioner..... | 150 00 |
| 7878 | Robt. J. Saltzman..... | Coal..... | 365 32 |
| 7879 | Hays Manufacturing Co..... | Curb, cocks, pipe, fittings, etc..... | 428 75 |
| 7880 | R. D. Wood & Co..... | Fire hydrants and Valves..... | 603 52 |
| 7881 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 616 49 |
| 9 7882 | Times, Graphic & Observer Co..... | Advertising..... | 5 00 |
| 7883 | Held, Gorenflo & Co..... | Advertising..... | 5 00 |
| 7884 | The Erie Dispatch..... | Advertising..... | 5 00 |
| 7885 | Herald Ptg. & Pub. Co..... | Advertising and stationery..... | 5 20 |
| 7886 | Geo. C. Gensheimer, Asst. Secy..... | Sundries..... | 66 26 |
| 7887 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 852 96 |
| 15 7888 | John Wahl Commission Co..... | Pig lead..... | 1,681 40 |
| 16 7889 | Erie City Fertilizer Works..... | Fertilizer..... | 10 00 |
| 7890 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 697 57 |
| 23 7891 | Geo. C. Gensheimer, Asst. Sec..... | Sundries..... | 13 58 |
| 7892 | Pennsylvania Company..... | Freight..... | 96 08 |
| 7893 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | £10 55 |
| 7894 | Wm. Himrod, Sec. and Treas..... | American Water Works Assn..... | 100 00 |
| 30 7895 | Lake Shore & M. S. Ry. Co..... | Freight..... | 22 78 |
| 7896 | The J. L. Mott Iron Works..... | Drinking Fountain..... | 83 13 |
| 7897 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 580 00 |
| 7898 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 601 10 |
| 7899 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 1,081 66 |
| 7900 | Dispatch Ptg. & Eng. Co., Lt'd..... | Printing and stationery..... | 21 50 |
| Total..... | | | \$ 9,476 35 |

June.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|------------------------------------|--------------------------------------|----------------|
| 1 | 7901 | Thacher & Breymann..... | Laying sixty-inch pipe..... | \$ 8,188 07 |
| 6 | 7902 | Erie Oil Company..... | Oil..... | 2 00 |
| | 7903 | Jarecki Mfg. Co., Lt'd..... | Valve plungers, etc..... | 2 22 |
| | 7904 | Saltsman & Austin..... | Sewer pipe and Cement..... | 3 64 |
| | 7905 | Constable Bros..... | Ladders..... | 3 81 |
| | 7906 | Brown & Thomas..... | Old iron..... | 4 80 |
| | 7907 | Bay State Iron Works, Lt'd..... | Boiler repairs..... | 5 85 |
| | 7908 | The Henssey Mfg. Co..... | Leather washers..... | 7 50 |
| | 7909 | Chas. Franklin, Agent..... | Oats and straw..... | 7 72 |
| | 7910 | A. S. Finney..... | Hardware..... | 8 46 |
| | 7911 | J. N. Blaisdell..... | Horse shoeing and setting tire..... | 10 00 |
| | 7912 | E. McK. Whitley..... | Coke and wood..... | 13 10 |
| | 7913 | Lyman Felheim..... | Meter box and material..... | 14 03 |
| | 7914 | E. J. Riblet..... | Shop rent (for June, 1896)..... | 20 00 |
| | 7915 | Ashby & Vincent..... | Books and stationery..... | 20 10 |
| | 7916 | James L. Firman..... | Teaming..... | 21 40 |
| | 7917 | Union Iron Works..... | Drawing..... | 37 50 |
| | 7918 | South Erie Iron Works..... | Castings..... | 41 40 |
| | 7919 | G. E. Barger..... | Insurance..... | 50 00 |
| | 7920 | Erie Mfg. & Supply Co..... | Hose, Valves, etc..... | 62 53 |
| | 7921 | Blass Bros..... | Clover and grass seeds..... | 79 92 |
| | 7922 | Atlantic Refining Co..... | Oil..... | 105 84 |
| | 7923 | Union Water Meter Co..... | Meters..... | 110 09 |
| | 7924 | Globe Iron Foundry Co..... | Castings..... | 160 81 |
| | 7925 | Robt. J. Saltsman..... | Coal..... | 336 35 |
| | 7926 | Henry R. Worthington..... | Metallic packing..... | 348 10 |
| | 7927 | Hays Manufacturing Co..... | Cocks and fittings..... | 428 56 |
| | 7928 | Bauschard Mfg. Co..... | Meter box..... | 8 00 |
| | 7929 | Erie Machine Shop..... | Boiler and Engine repairs..... | 32 67 |
| | 7930 | Geo. C. Gensheimer, Asst. Sec..... | Sundries..... | 26 34 |
| 13 | 7931 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 537 65 |
| 17 | 7932 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 613 49 |
| 20 | 7933 | Conrad J. Brown, County Treas... | Water lots at Treasurer's sale..... | 384 76 |
| | 7934 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 630 28 |
| | 7935 | John O. Baker..... | On contract, building Pier..... | 650 00 |
| 27 | 7936 | John O. Baker..... | Work on scow..... | 7 24 |
| | 7937 | Empire Line..... | Freight..... | 11 91 |
| | 7938 | The Lake Shore & M. S. Ry. Co..... | Freight..... | 93 81 |
| | 7939 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 407 56 |
| Total..... | | | | \$13,497 51 |

July.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|-------------------------------------|--|----------------|
| 1 | 7940 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | \$ 580 00 |
| | 7941 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 1,061 66 |
| | 7942 | O. M. Halcott..... | Driving wells on Peninsula..... | 38 00 |
| | 7943 | D. P. Murphy..... | Mason Work..... | 38 75 |
| | 7944 | T. W. Shacklett..... | Services as Commissioner..... | 150 00 |
| | 7945 | William Hardwick..... | Services as Commissioner..... | 150 00 |
| | 7946 | Clark Olds..... | Services as Commissioner..... | 150 00 |
| | 7947 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 605 70 |
| 11 | 7948 | Geo. C. Gensheimer, Asst. Secy..... | Sundries..... | 47 44 |
| | 7949 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 319 69 |
| 18 | 7950 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 406 54 |
| | 7951 | Thacher & Breyman..... | Laying sixty-inch pipe..... | 10,531 84 |
| 25 | 7952 | Geo. C. Gensheimer, Asst. Secy..... | Sundries..... | 88 79 |
| | 7953 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 462 65 |
| | 7954 | Lake Shore & M. S. Ry. Co..... | Freight..... | 79 15 |
| 31 | 7955 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 580 00 |
| | 7956 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 1,061 66 |
| Total..... | | | | \$16,391 87 |

August.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|-------------------------------------|--------------------------------------|----------------|
| 1 | 7957 | Pennsylvania Company..... | Freight..... | \$ 14 73 |
| | 7958 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 562 82 |
| 3 | 7959 | Mehl & Sapper..... | Hardware..... | 1 35 |
| | 7960 | Standard Brick Works..... | Brick..... | 3 00 |
| | 7961 | George Schlindwein..... | Repairing harness..... | 3 20 |
| | 7962 | Lake City Machine Shop..... | Tools and repairs..... | 4 70 |
| | 7963 | Michael Wittman..... | Teaming..... | 5 00 |
| | 7964 | W. F. Nick & Son..... | Paints and oils..... | 5 80 |
| | 7965 | A. S. Pinney..... | Hardware..... | 6 04 |
| | 7966 | R. T. Williams & Co..... | Plumbing material..... | 6 65 |
| | 7967 | J. Krets, Agent..... | Rope..... | 7 29 |
| | 7968 | C. Kessler..... | Brooms, mops and sundries..... | 7 73 |
| | 7969 | E. McK. Whitley..... | Coke and wood..... | 8 30 |
| | 7970 | J. N. Blaisdell..... | Horse shoeing..... | 8 80 |
| | 7971 | A. Brugger..... | Wooden plugs..... | 12 80 |
| | 7972 | O. C. Thayer & Son..... | Brick and clay..... | 13 50 |
| | 7973 | James L. Firman..... | Teaming (done in June, 1896)..... | 19 25 |
| | 7974 | F. Senger..... | Stone for drinking fountain..... | 16 00 |
| | 7975 | Erie Mfg. & Supply Co..... | Material for Engine No. 4..... | 29 13 |
| | 7976 | Ashby & Vincent..... | Books and stationery..... | 36 18 |
| | 7977 | Lyman Felheim..... | Lumber and meter boxes..... | 40 78 |
| | 7978 | N. Y. & P. Telephone & Tel. Co..... | Rental of telephones..... | 54 92 |
| | 7979 | South Erie Iron Works..... | Castings for meter boxes..... | 66 33 |
| | 7980 | Erie Oil Company..... | Oil..... | 81 75 |
| | 7981 | Globe Iron Foundry Co..... | Castings..... | 82 71 |
| | 7982 | Bay State Iron Works, Ltd..... | Repairing Boilers..... | 97 93 |
| | 7983 | Erie Machine Shop..... | Repairs to Engines..... | 138 35 |
| | 7984 | Hays Manufacturing Co..... | Fittings for Connections..... | 148 01 |
| | 7985 | R. J. Saltzman..... | Coal, coke and wood..... | 318 67 |
| | 7986 | R. D. Wood & Co..... | Fire hydrants and Stop Valves..... | 528 91 |
| | 7987 | Union Water Meter Co..... | Meters..... | 409 98 |
| | 7988 | G. Lyman Moody..... | Investigating currents in Bay..... | 100 70 |
| 7 | 7989 | Erie Mfg. & Supply Co..... | Waste and Packing..... | 98 20 |



**JOHN C. PERKINS,
SECRETARY AND TREASURER,
1869-1878.**

August—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|-------------------------------------|--|----------------|
| 4 | 7990 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | \$ 577 25 |
| 10 | 7991 | Thacher & Breymann..... | Laying Intake No. 2..... | 5,327 95 |
| 15 | 7992 | Times, Graphic & Observer Co..... | Advertising..... | 7 95 |
| | 7993 | The Erie Dispatch..... | Advertising..... | 10 20 |
| | 7994 | Held, Gorenflo & Co..... | Advertising..... | 10 75 |
| | 7995 | A. J. Black..... | Hose..... | 12 25 |
| | 7996 | Herald Ptg. & Pub. Co..... | Advertising, books and stationery.... | 37 90 |
| | 7997 | Geo. C. Gensheimer, Asst. Sec..... | Sundries..... | 86 40 |
| | 7998 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 526 30 |
| 15 | 7999 | John Wahl Commission Co..... | Pig lead..... | 632 41 |
| 21 | 8000 | P. Hall..... | Glass and oil..... | 2 95 |
| | 8001 | Peter Blum..... | Repairing wagon..... | 7 25 |
| | 8002 | Lake Shore & M. S. Ry. Co..... | Freight..... | 12 75 |
| | 8003 | James L. Firman..... | Teaming..... | 19 50 |
| | 8004 | Chas. Franklin, Agent..... | Oats and hay..... | 41 17 |
| | 8005 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 459 25 |
| 25 | 8006 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 576 09 |
| 31 | 8007 | Walter C. Brough..... | Stationery for Engineer's Office, etc. | 4 61 |
| | 8008 | T. W. Shacklett..... | Services as Commissioner..... | 150 00 |
| | 8009 | Wm. Hardwick..... | Services as Commissioner..... | 150 00 |
| | 8010 | John O. Baker..... | On contract building pier..... | 524 64 |
| | 8011 | Pay Roll—Pumping Station..... | Disbursed by John Kolb, Bkkpr..... | 590 00 |
| | 8012 | Pay Roll—Office and Inspectors..... | Disbursed by John Kolb, Bkkpr..... | 940 53 |
| Total | | | | \$13,657 70 |

September.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|------------------------------------|--------------------------------------|----------------|
| 2 | 8013 | Frank Thayer..... | Sod..... | \$ 20 00 |
| 5 | 8014 | Geo. C. Gensheimer, Asst. Sec..... | Sundries..... | 85 40 |
| | 8015 | James A. Paisley..... | Coal..... | 234 14 |
| | 8016 | Pay Roll—Street Work..... | Disbursed by John Kolb, Bkkpr..... | 693 49 |
| 12 | 8017 | J. N. Blaisdell..... | Horse shoeing and repairs to wagon.. | 21 95 |
| | 8018 | Pay Roll—Street Work..... | Disbursed by John Kolb, Bkkpr..... | 481 22 |
| 18 | 8019 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 404 73 |
| 25 | 8020 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 381 90 |
| Total | | | | \$ 2,232 83 |

October.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|---------------------------------------|--|----------------|
| 3 | 8021 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | \$ 590 00 |
| | 8022 | Pay Roll—Office, Inspectors, etc.... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 906 66 |
| | 8023 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 645 52 |
| 10 | 8024 | J. A. Paisley..... | Coal..... | 389 85 |
| | 8025 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 555 38 |
| | 8026 | Gallagher Printing Co..... | Printing..... | 6 75 |
| | 8027 | D. P. Gallagher..... | Mason work..... | 16 50 |
| | 8028 | William Crane..... | Electrical work..... | 19 00 |
| | 8029 | O. M. Halcott..... | Driving wells on Peninsula..... | 66 50 |
| | 8030 | Clark Olds..... | Services as Commissioner..... | 150 00 |
| | 8031 | W. P. Mason..... | Chemical analyses of water and sand | 75 00 |
| 17 | 8032 | T. S. Buck..... | Rubber stamp..... | 1 02 |
| | 8033 | Constable Bros..... | Lumber and labor..... | 1 25 |
| | 8034 | Keystone Brass Co..... | Repairs for Meters..... | 1 98 |
| | 8035 | Atlantic Refining Co..... | Oil..... | 2 16 |
| | 8036 | Wm. F. Nick & Son..... | Oil and paint..... | 2 45 |
| | 8037 | Hollands Mfg. Co..... | Tools and repairs..... | 2 68 |
| | 8038 | Flickinger Roof. & Cor. Co., Ltd..... | Sheet copper and labor..... | 2 70 |
| | 8039 | Thompson Meter Co..... | Repairs to Meter..... | 3 00 |
| | 8040 | Erie Engine Works..... | Labor on sixty-inch pipe..... | 4 00 |

October—Continued.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. | |
|------------|------|---------------------------------------|--|----------|
| 17 | 8041 | Fred Gross..... | Packing..... | \$4 25 |
| | 8042 | Wm. Schade & Co..... | Blacksmithing..... | 4 44 |
| | 8043 | Ashby & Vincent..... | Stationery..... | 4 50 |
| | 8044 | George Schindwein..... | Repairs to harness..... | 4 55 |
| | 8045 | Union Ice Co..... | Ice..... | 5 00 |
| | 8046 | C. Kessler..... | Sundries..... | 5 11 |
| | 8047 | Globe Iron Foundry..... | Castings..... | 6 31 |
| | 8048 | O. C. Thayer & Son..... | Cement and Pipe..... | 6 32 |
| | 8049 | Bay State Iron Works, Lt'd..... | Repairs to Boiler..... | 7 30 |
| | 8050 | A. S. Pinney..... | Hardware and tools..... | 8 96 |
| | 8051 | Union Iron Works..... | Castings and Boiler repairs..... | 9 70 |
| | 8052 | Lyman Felheim..... | Lumber..... | 22 68 |
| | 8053 | Lake City Machine Shop.... | Tools and repairs..... | 25 70 |
| | 8054 | South Erie Iron Works..... | Castings..... | 46 98 |
| | 8055 | N. Y. & P. Telephone & Tel. Co..... | Rental of telephones..... | 50 25 |
| | 8056 | Standard Brick Works..... | Brick..... | 65 45 |
| | 8057 | Hays Manufacturing Co..... | Fittings for Connections, etc..... | 79 75 |
| | 8058 | Erie Machine Shop..... | Repairs to Boilers and Engines..... | 82 21 |
| | 8059 | Atlantic Refining Co..... | Oil..... | 119 30 |
| | 8060 | Robt. J. Saltzman..... | Coal..... | 192 67 |
| | 8061 | R. D. Wood & Co..... | Fire Hydrants and Stop Valves..... | 1,638 15 |
| | 8062 | Geo. C. Gensheimer, Asst. Secy..... | Sundries..... | 18 49 |
| | 8063 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 572 39 |
| | 8064 | The Mohawk Refining Co..... | Boiler compound..... | 8 33 |
| 24 | 8065 | E. McK. Whitley..... | Coke..... | 1 50 |
| | 8066 | O. C. Thayer & Son..... | Potter's clay..... | 1 00 |
| | 8067 | Henry Beckman & Son..... | Water pails..... | 3 90 |
| | 8068 | Beaver Coal & Coke Co..... | Coal..... | 4 35 |
| | 8069 | Atlantic Refining Co..... | Oil..... | 4 40 |
| | 8070 | Lyman Felheim..... | Meter boxes..... | 6 05 |
| | 8071 | Union Ice Co..... | Ice..... | 6 20 |
| | 8072 | C. Kessler..... | Soap, lye, etc..... | 11 10 |
| | 8073 | Saltzman & Austin..... | Cement..... | 13 15 |
| | 8074 | South Erie Iron Works..... | Castings..... | 25 71 |
| | 8075 | Erie Mfg. & Supply Co..... | Hose, Tools, Waste, etc..... | 37 75 |
| | 8076 | Erie Machine Shop..... | Repairs to Boilers and Engines..... | 40 94 |
| | 8077 | The Orient Electric Co..... | Incandescent Lamps..... | 41 80 |
| | 8078 | Hays Manufacturing Co..... | Fittings for Connections, etc..... | 57 14 |
| | 8079 | E. J. Riblet..... | Shop rent—3 months..... | 60 00 |
| | 8080 | Erastus G. Smith, Ph. D..... | Chemical analyses of water..... | 75 00 |
| | 8081 | Erie Oil Works..... | Oil..... | 89 05 |
| | 8082 | Globe Iron Foundry Co..... | Castings..... | 94 98 |
| | 8083 | Robt. J. Saltzman..... | Coal, coke and wood..... | 178 22 |
| | 8084 | Beas & Althof..... | Stairs, rail, etc., Engine House No. 3..... | 251 13 |
| | 8085 | *Will appear in November, 1896, | Statement..... | |
| | 8086 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 633 21 |
| 31 | 8087 | Times, Graphic & Observer Co..... | Advertising..... | 2 40 |
| | 8088 | Herald Ptg. & Pub. Co..... | Advertising..... | 5 00 |
| | 8089 | Held, Gorenflo & Co..... | Advertising..... | 5 00 |
| | 8090 | The Erie Dispatch..... | Advertising..... | 6 00 |
| | 8091 | Frank P. Thayer..... | Top dressing..... | 64 90 |
| | 8092 | T. W. Shacklett..... | Services as Commissioner..... | 150 00 |
| | 8093 | William Hardwick..... | Services as Commissioner..... | 150 00 |
| | 8094 | Clark Olds..... | Services as Commissioner..... | 150 00 |
| | 8095 | The Bourne Fuller Co..... | Galvanized wrought iron pipe..... | 608 71 |
| | 8096 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 580 00 |
| | 8097 | Pay Roll—Office, Inspectors, etc..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 968 76 |
| | 8098 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 745 79 |
| | 8099 | D. P. Murphy..... | Mason work..... | 23 00 |
| Total..... | | | \$11,442 67 | |

November.

TO PAY VOUCHER,

| Date. | No. | Of | For | Amount. |
|-------------|------|-------------------------------------|--|-------------|
| 2 | 8101 | Lake Shore & M. S. Ky Co..... | Freight..... | \$ 46 12 |
| 4 | 8100 | Thacher & Breymann..... | Intake No. 2, etc..... | 5,570 61 |
| 9 | 885 | Thomas Paakett..... | Stone (See October)..... | 375 00 |
| 7 | 8102 | Geo. C. Gensheimer, Asst. Secy.... | Sundries..... | 46 86 |
| | 8103 | J. A. Paisley..... | Coal..... | 334 08 |
| | 8104 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk.... | 581 89 |
| 14 | 8105 | W. F. Nick & Son..... | Glass and putty..... | 1 00 |
| | 8106 | W. H. Dickson..... | Powder, caps and fuse..... | 2 28 |
| | 8107 | Ashby & Vincent..... | Stationery..... | 2 80 |
| | 8108 | Robt. J. Saltsman..... | Coke..... | 3 81 |
| | 8109 | Keystone Electric Co..... | Carbon brushes..... | 4 00 |
| | 8110 | Mehl & Sapper..... | Clamps..... | 4 35 |
| | 8111 | Schaffer & Budenberg..... | Thermometer..... | 5 00 |
| | 8112 | A. Brugger..... | Wooden plugs..... | 5 50 |
| | 8113 | Standard Brick Works..... | Brick..... | 5 50 |
| | 8114 | John O. Baker..... | Labor and lumber..... | 6 08 |
| | 8115 | Henry A. Niemeyer..... | Material at Reservoir..... | 7 00 |
| | 8116 | Jarecki Manufacturing Co., Lt'd. | Pipe and Valves..... | 7 52 |
| | 8117 | Saltsman & Austin..... | Cement..... | 7 60 |
| | 8118 | J. N. Blaisdell..... | Horse shoeing..... | 8 00 |
| | 8119 | C. Kessler..... | Brooms, mops, etc..... | 8 20 |
| | 8120 | Erie City Brick Yard..... | Brick..... | 8 25 |
| | 8121 | South Erie Iron Works..... | Castings..... | 9 28 |
| | 8122 | Thomson Meter Co..... | Repairing meters..... | 9 60 |
| | 8123 | J. Krets, Agent..... | Old rope..... | 13 50 |
| | 8124 | Wm. Densmore & Co..... | Oats..... | 14 60 |
| | 8125 | O. C. Thayer & Son..... | Clay and brick..... | 14 60 |
| | 8126 | E. J. Riblet..... | Shop rent..... | 20 00 |
| | 8127 | Erie Machine Shop..... | Boiler and Engine repairs..... | 24 21 |
| | 8128 | Union Ice Co..... | Ice..... | 24 60 |
| | 8129 | Herald Ptg. & Pub. Co..... | Stationery and printing..... | 24 60 |
| | 8130 | Robt. T. Walker..... | Rent for barn..... | 30 00 |
| | 8131 | R. T. Williams & Co..... | Plumbing material and labor..... | 30 86 |
| | 8132 | Dispatch Ptg. & Engraving Co..... | Stationery and printing..... | 60 50 |
| | 8133 | Union Iron Works..... | Boiler repairs..... | 74 24 |
| | 8134 | Jas. L. Firman..... | Teaming..... | 74 28 |
| | 8135 | Henry R. Worthington..... | Repairs, Engine No. 4..... | 100 00 |
| | 8136 | Erie Mfg. & Supply Co..... | Oil, Tools, Packing, etc..... | 111 65 |
| | 8137 | Atlantic Refining Co..... | Pill..... | 118 55 |
| | 8138 | Hays Manufacturing Co..... | Pipe and fittings for Connections.... | 130 10 |
| | 8139 | Henry Mayer..... | Repairing cuts in asphalt paving..... | 132 89 |
| | 8140 | Union Water Meter Co..... | Meters and fish trap..... | 193 75 |
| | 8141 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk ... | 708 05 |
| 21 | 8142 | Geo. C. Gensheimer, Asst. Secy.... | Sundries..... | 16 68 |
| | 8143 | Frank P. Thayer..... | Top dressing..... | 71 28 |
| | 8144 | W. E. Bell, Collector..... | Taxes..... | 218 75 |
| | 8145 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk.... | 826 28 |
| 28 | 8146 | McMahon & Sullivan..... | Old rope..... | 16 07 |
| | 8147 | W. H. Maloney & Co..... | Trees..... | 144 50 |
| | 8148 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk.... | 585 00 |
| 30 | 8149 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 580 00 |
| | 8150 | Pay Roll—Office, Inspectors, etc... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 906 66 |
| Total | | | | \$12,325 54 |

December.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|------------------------------------|----------------------------------|---------|
| 5 | 8151 | Bay State Iron Works, Lt'd. | Tools and repairs. | \$ 1 60 |
| | 8152 | Henry Mayer. | Repairing pavement. | 2 29 |
| | 8153 | Nelson Meyette. | Painting and lettering Bouy. | 4 00 |
| | 8154 | Standard Brick Works. | Brick. | 5 50 |
| | 8155 | Robt. J. Saltsman. | Coal. | 5 75 |
| | 8156 | Atlantic Refining Co. | Oil. | 5 83 |
| | 8157 | J. N. Blaisdell. | Horse shoeing. | 6 40 |
| | 8158 | National Meter Co. | Meter repairs. | 6 25 |
| | 8159 | O. C. Thayer & Son. | Fire brick and fire clay. | 6 75 |
| | 8160 | Brown & Thomas. | Old iron. | 7 12 |
| | 8161 | C. Kessler. | Soap, etc. | 7 70 |
| | 8162 | Ashby & Vincent. | Blank books. | 8 00 |
| | 8163 | Saltsman & Austin. | Cement. | 8 10 |
| | 8164 | E. McK. Whitley. | Coke and wood. | 9 75 |
| | 8165 | Erie City Brick Yard. | Brick. | 11 00 |
| | 8166 | R. T. Williams & Co. | Repairing steam pipes. | 13 25 |
| | 8167 | Lewis E. Gingrich. | Oats. | 15 00 |
| | 8168 | Constable Bros. | Repairs at Pumping Station. | 16 25 |
| | 8169 | E. J. Riblet. | Rent of shop (November, 1896). | 20 00 |
| | 8170 | James L. Firman. | Teaming. | 24 00 |
| | 8171 | S. A. French. | Badges. | 27 00 |
| | 8172 | Herald Ptg. & Pub. Co. | Printing and stationery. | 42 15 |
| | 8173 | A. S. Pinney. | Hardware, etc. | 51 72 |
| | 8174 | N. Y. & P. Telephone & Tel. Co. | Rental of telephones. | 56 25 |
| | 8175 | Erie Machine Shop. | Repairs of Boilers and Engines. | 56 67 |
| | 8176 | Erie Oil Works. | Oil. | 57 55 |
| | 8177 | Erie Mfg. & Supply Co. | Tools, Waste, Packing, etc. | 137 72 |
| | 8178 | J. A. Paisley. | Coal. | 168 48 |
| | 8179 | Hays Manufacturing Co. | Pipe and fittings. | 316 24 |
| | 8180 | Hingston & Woods. | Dredging and filling. | 645 25 |
| | 8181 | Pay Roll—Street Work. | Disbursed by M. L. Whitley, Clk. | 824 84 |
| 12 | 8182 | William Crane. | Electrical work in office. | 15 00 |
| | 8183 | Lake Shore & M. S. Ry. Co. | Freight. | 25 59 |
| | 8184 | Pay Roll—Street Work. | Disbursed by M. L. Whitley, Clk. | 336 16 |
| 15 | 8185 | McMahon & Sullivan. | Old rope. | 55 46 |
| 21 | 8186 | Hollands Mfg. Co. | Tools. | 1 50 |
| | 8187 | Brown & Thomas. | Old iron. | 2 19 |
| | 8188 | Murphy Bros. | Hardware. | 3 06 |
| | 8189 | J. N. Blaisdell. | Horse shoeing. | 6 40 |
| | 8190 | John Meyerhoefer. | Repairing tools. | 7 00 |
| | 8191 | Henry R. Worthington. | Engine repairs. | 7 14 |
| | 8192 | Union Water Meter Co. | Meter repairs. | 7 20 |
| | 8193 | Union Iron Works. | Boiler repairs. | 9 50 |
| | 8194 | Emil Streuber. | Leather. | 9 68 |
| | 8195 | O. C. Thayer & Son. | Cement, fire brick, etc. | 10 65 |
| | 8196 | Flickinger Roof & Corn. Co., Lt'd. | Lanterns and pails. | 11 20 |
| | 8197 | Union Ice Co. | Ice. | 13 50 |
| | 8198 | Wm. Densmore & Co. | Oats. | 14 00 |
| | 8199 | E. McK. Whitley. | Coke and wood. | 16 04 |
| | 8200 | V. D. Eichentlaub. | Repairing pavement. | 17 33 |
| | 8201 | Lyman Felheim. | Lumber, etc. | 17 62 |
| | 8202 | E. J. Riblet. | Rent of shop (December, 1896). | 20 00 |
| | 8203 | Dispatch Ptg. & Eng. Co., Lt'd. | Printing and stationery. | 20 25 |
| | 8204 | Saltsman & Austin. | Cement and pipe. | 24 69 |
| | 8205 | The Mohawk Refining Co. | Boiler Compound. | 39 48 |
| | 8206 | Erie Machine Shop. | Boiler and Engine repairs. | 50 84 |
| | 8207 | Standard Brick Works. | Brick. | 72 19 |
| | 8208 | Globe Iron Foundry Co. | Castings. | 81 27 |
| | 8209 | South Erie Iron Works. | Castings. | 89 28 |
| | 8210 | Atlantic Refining Co. | Oil. | 96 95 |
| | 8211 | Ashby & Vincent. | Books and stationery. | 102 75 |
| | 8212 | Hays Manufacturing Co. | Pipe and fittings. | 105 93 |
| | 8213 | Wm. T. Ball, Collector. | Taxes. | 120 00 |
| | 8214 | T. W. Shacklett. | Services as Commissioner. | 150 00 |
| | 8215 | William Hardwick. | Services as Commissioner. | 150 01 |
| | 8216 | Clark Olds. | Services as Commissioner. | 150 00 |

December—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>By</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|------------------------------------|--|----------------|
| 21 | 8217 | R. D. Wood & Co..... | Stop Valves..... | \$ 214 70 |
| | 8218 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 267 20 |
| | 8219 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 580 00 |
| | 8220 | Pay Roll—Office & Inspectors..... | Disbursed by Geo. C. Gensheimer, Assistant Secretary..... | 906 74 |
| | 8221 | D. P. Murphy..... | Mason work..... | 80 00 |
| 26 | 8222 | James Firman..... | Hay..... | 14 85 |
| | 8223 | Geo. C. Gensheimer, Asst. Sec..... | Sundries..... | 63 23 |
| | 8224 | Chas. S. Clarke, Postmaster..... | Postage stamps..... | 100 00 |
| | 8225 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clk..... | 192 38 |
| 29 | 8226 | S. A. Davenport..... | Legal services..... | 100 00 |
| Total..... | | | | \$ 6,935 80 |

Recapitulation, 1896.

| <i>No. Voucher.</i> | <i>Month.</i> | <i>Amounts.</i> |
|---------------------|----------------|-----------------|
| 19 | January..... | \$ 21,202 82 |
| 71 | February..... | 7,260 04 |
| 9 | March..... | 715 97 |
| 48 | April..... | 11,062 37 |
| 58 | May..... | 9,476 35 |
| 39 | June..... | 13,497 51 |
| 17 | July..... | 16,391 87 |
| 56 | August..... | 13,657 70 |
| 8 | September..... | 2,232 83 |
| 79 | October..... | 11,442 67 |
| 52 | November..... | 12,325 54 |
| 76 | December..... | 6,935 80 |
| 532 | Total..... | \$126,231 47 |



RESERVOIR.

DISBURSEMENTS.

| Department. | Account. | For the Year 1896. | | | From be- ginning of Works to December 31, 1896. |
|---------------|--|--------------------|-----------|-----------|---|
| | | Labor. | Material. | Total. | |
| Construction. | Ad., Books, Sta. and Printing..... | a 74 | \$ 27 91 | \$ 28 65 | \$ 293 26 |
| | Buildings and Grounds..... | a | | | 86,880 78 |
| | Boilers..... | a | | | 3,364 13 |
| | Civil Engineering..... | a | | | 8,554 80 |
| | Connections..... | a | | | 112,612 05 |
| | Drinking Fountains..... | a 3,344 14 | 2,837 55 | 6,181 69 | 1,291 87 |
| | Engines and Boilers to Jan. 1, 1891..... | d 24 95 | 104 44 | 129 39 | 93,336 61 |
| | Engines..... | a | | | 15 05 |
| | Engine No. 4..... | b | | | 48,353 18 |
| | Engine House No. 3..... | b | | | 21,401 94 |
| | Engine Room Fur. and Fix..... | b | | | 1,398 86 |
| | Expense..... | a 19 06 | 15 15 | 34 15 | 340 95 |
| | Electric Light Plant..... | a | | | 722 98 |
| | Fire Hydrants..... | a 270 78 | 1,464 63 | 1,735 41 | 26,307 29 |
| | Fuel..... | a 76 | 28 66 | 29 42 | 177 24 |
| | Gas Well..... | a | | | 8,148 59 |
| | Horse, Wagon and Cartage..... | a | | | 4,412 64 |
| | Intake Pipe No. 1..... | a | | | 49,474 39 |
| | Intake Pipe No. 2..... | b 29,552 43 | 25,836 19 | 55,488 62 | 134,494 54 |
| | Interest and Discount..... | a | | | 99,420 95 |
| | Light, Oil, Lamps, Wicks, etc..... | a 1 04 | 39 10 | 40 14 | 173 18 |
| | Lowering Mains..... | a 247 23 | 2 28 | 249 51 | 839 71 |
| | Mains and Branches..... | a 6,875 04 | 2,384 55 | 9,259 59 | 516,860 77 |
| | Main, 30-inch..... | a | | | 75,956 61 |
| | Meters..... | a 142 87 | 993 86 | 1,136 83 | 17,408 39 |
| | New Boiler Equipment..... | f 1 00 | 37 79 | 38 79 | 88 79 |
| | Office Furniture and Fixtures..... | a | | | 1,068 85 |
| | Oil and Tallow..... | b | | | 9 50 |
| | Paving and Street Repairs..... | b | | | 4 07 |
| | Park Fountains..... | a | | | 3,244 68 |
| | Railroad Switch and Scales..... | a | | | 2,918 92 |
| | Reservoir..... | a | | | 123,150 83 |
| | Stop Valves..... | a 571 74 | 2,192 61 | 2,764 35 | 38,247 45 |
| | Superintendent's Stores..... | a | | | 217 05 |
| | Superintendent's Expense..... | a | | | 52 82 |
| | Shop Rent..... | a 3 22 | 121 68 | 124 90 | 664 48 |
| | Tools and Repairs..... | a 158 89 | 159 36 | 318 25 | 4,704 01 |
| | Telephone and Telegraph..... | a 1 04 | 1 66 | 1 70 | 12 79 |
| | Water Lots..... | e 8,165 63 | 2,887 34 | 11,052 97 | 15,634 05 |
| Maintenance. | Ad., Books, Sta. and Printing..... | a 17 | 6 38 | 6 55 | 242 62 |
| | Buildings and Grounds..... | a 468 36 | 70 70 | 529 06 | 7,201 48 |
| | Boilers to January 1, 1893..... | a | | | 18,365 28 |
| | Boiler No. 1..... | c 111 03 | 182 82 | 293 85 | 840 94 |
| | Boiler No. 2..... | c 72 26 | 85 95 | 158 21 | 712 86 |
| | Boiler No. 3..... | c 156 47 | 256 06 | 412 53 | 1,069 80 |
| | Boiler No. 4..... | c 58 20 | 125 49 | 183 69 | 888 68 |
| | Boiler No. 5..... | c 93 40 | 183 34 | 276 74 | 580 27 |
| | Boiler No. 6..... | c 60 07 | 108 14 | 168 21 | 458 03 |
| | Boiler House..... | c 18 15 | 87 | 19 02 | 524 37 |
| | Connections..... | c 2,065 58 | 372 62 | 2,438 20 | 9,754 22 |
| | Drinking Fountains..... | d 42 13 | 2 09 | 44 22 | 77 00 |
| | Engines to January 1, 1893..... | c | | | 13,402 04 |
| | Engine No. 1..... | c 3 23 | | 3 23 | 115 53 |
| | Engine No. 2..... | c | | | 310 09 |
| | Engine No. 3..... | c 17 50 | 38 62 | 56 12 | 486 68 |
| | Engine No. 4..... | d 84 21 | 717 87 | 802 08 | 1,419 90 |
| | Engine No. 5..... | c 96 | | 96 | 1,003 96 |
| | Engine House No. 1..... | c 41 84 | 27 72 | 69 56 | 1,238 64 |
| | Engine House No. 2..... | c 76 49 | 278 12 | 354 61 | 718 25 |
| | Engine House No. 3..... | b | | | 1 05 |
| | Engineer's Stores..... | a 07 | 2 47 | 2 54 | 178 27 |
| | Engine Room Fur. and Fix..... | a 18 93 | 11 71 | 30 64 | 319 60 |
| | Expense..... | b 1 74 | 65 65 | 67 39 | 271 30 |
| | Electric Light Plant..... | a 348 22 | 26 24 | 374 46 | 2,056 77 |
| | Fire Hydrants..... | a | | | 134 33 |
| | Fuel..... | a 76 | 28 79 | 29 55 | |

DISBURSEMENTS—Continued.

| Department. | Account. | For the Year 1896. | | | From be- ginning of Works to December 31, 1896. |
|----------------|-------------------------------------|--------------------|-------------|--------------|---|
| | | Labor. | Material. | Total. | |
| Maintenance. | Horse, Wagon and Cartage..... | \$ 86 87 | \$ 215 07 | \$ 301 94 | \$ 4,423 72 |
| | Intake Pipe No. 1..... | a | | | 146 11 |
| | Light, Oil, Lamps, Wicks, etc..... | a | 79 | 30 78 | 102 32 |
| | Mains and Branches..... | 1,409 72 | 139 66 | 1,549 37 | 19,396 78 |
| | Main, 30-inch..... | a | | | 899 33 |
| | Meters..... | 111 38 | 175 33 | 286 71 | 4,928 83 |
| | Office Furniture and Fixtures..... | a | 2 80 | 22 32 | 284 43 |
| | Oil and Tallow..... | b | 24 | 9 19 | 13 73 |
| | Paving and Street Repairs..... | a | | | 449 94 |
| | Railroad Switch and Scales..... | a | 1 64 | 1 64 | 616 34 |
| | Reservoir..... | 198 90 | 43 31 | 242 21 | 25,116 19 |
| | Stand Pipe..... | c | 4 61 | 4 61 | 3,821 54 |
| | Stop Valves..... | 610 75 | 198 63 | 809 38 | 5,060 78 |
| | Superintendent's Stores..... | | | | 396 52 |
| | Superintendent's Expense..... | a | | | 52 55 |
| | Shop Rent..... | a | 3 22 | 124 90 | 664 24 |
| | Tools and Repairs..... | 159 34 | 176 33 | 335 67 | 5,145 51 |
| | Waste and Packing..... | b | 36 | 13 96 | 36 14 |
| | Ad., Books, Sta. and Printing..... | a | 3 38 | 131 10 | 980 27 |
| | Buildings and Grounds..... | b | 1,293 34 | 1,293 34 | 4,994 96 |
| | Engineers and Firemen..... | b | 6,676 24 | 6,676 24 | 124,145 81 |
| | Engineer's Stores..... | | | | 2,348 57 |
| | Expense..... | a | 145 92 | 220 47 | 1,025 65 |
| | Electric Light Plant..... | b | 04 | 1 55 | 34 68 |
| | Fire Hydrants..... | b | 61 79 | 61 79 | 192 37 |
| Operating..... | Fuel..... | 95 41 | 3,606 21 | 3,701 62 | 158,003 82 |
| | Horse, Wagon and Cartage..... | d | 24 | 9 31 | 54 81 |
| | Inspectors..... | c | 2,576 35 | 2,576 35 | 9,310 67 |
| | Insurance..... | 2 24 | 84 64 | 86 88 | 1,351 96 |
| | Light, Oil, Lamps, Wicks, etc..... | a | 2 25 | 87 07 | 341 74 |
| | Meters..... | b | 787 86 | 787 86 | 2,813 78 |
| | Oil and Tallow..... | 27 71 | 1,047 42 | 1,075 13 | 12,690 62 |
| | Reservoir..... | b | 492 70 | 492 70 | 2,305 07 |
| | Rent of Office..... | b | 2 40 | 38 17 | 602 93 |
| | Stop Valves..... | c | 196 46 | 196 46 | 233 23 |
| | Tools and Repairs..... | a | 4 25 | 160 39 | 493 16 |
| | Taxes—State, County and School..... | 9 03 | 341 34 | 350 37 | 1,829 70 |
| | Telephone and Telegraph..... | a | 25 44 | 249 86 | 988 24 |
| | Waste and Packing..... | 19 80 | 748 57 | 768 37 | 5,726 17 |
| | Water Rents returned..... | 26 | 9 57 | 9 83 | 1,066 48 |
| | Ad., Books, Sta. and Printing..... | 10 45 | 395 10 | 405 55 | 9,296 23 |
| | Expense..... | 58 | 21 82 | 22 40 | 14,786 39 |
| | Horse, Wagon and Cartage..... | b | | | 17 30 |
| | Postage..... | 8 76 | 331 17 | 339 93 | 5,871 07 |
| | Salaries..... | 7,411 02 | | 7,411 02 | 175,974 75 |
| | City of Erie Sinking Fund Com..... | | | | 105,500 00 |
| | City of Erie, Penn'a..... | a | | | 6 41 |
| Legal..... | Court Costs..... | | | | 478 40 |
| | Counsel Fees..... | | | | 3,258 53 |
| | Expense..... | a | 100 00 | 100 00 | 189 02 |
| Totals..... | | \$75,840 35 | \$50,391 12 | \$126,231 47 | \$2,278,575 81 |

a Accounts started in 1891.

b Accounts started in 1892.

c Accounts started in 1893.

d Accounts started in 1894.

e Accounts started in 1895.

f Accounts started in 1896.

RECAPITULATION.

| Department. | For the Year 1896. | | | | From be- ginning of Works to December 31, 1896. |
|-------------------|--------------------|--------------|--------------|--------------|---|
| | Pro Rata. | Labor. | Material. | Total. | |
| Construction..... | .70441523+ | \$ 49,566 55 | \$ 39,352 82 | \$ 88,919 37 | \$1,497,708 05 |
| Maintenance..... | .07964804+ | 6,319 88 | 3,734 21 | 10,054 09 | 133,984 97 |
| Operating..... | .15035165+ | 12,423 11 | 6,556 00 | 18,979 11 | 331,504 69 |
| Accounting..... | .06479287+ | 7,430 81 | 748 09 | 8,178 90 | 205,945 74 |
| Sundries..... | ..... | ..... | ..... | ..... | 105,506 41 |
| Legal..... | .00079219+ | 100 00 | ..... | 100 00 | 3,925 95 |
| Totals..... | .99999998+ | \$75,840 35 | \$50,391 12 | \$126,231 47 | \$2,278,575 81 |

**Statement of Account with City of Erie, Penna.
1896.**

| CITY OF ERIE, PENNA. | | DR. |
|---|---------------|--------------|
| WATER —Fire Hydrants..... | \$28,270 00 | |
| Park Fountains..... | 1,251 05 | |
| Flushing Mill Creek..\$125 00 | | |
| Flushing Sewers..... 450 00— | 575 00 | |
| City Hall..... | 307 86 | |
| Drinking Fountains.. 98 12 | | |
| Drinking Fountain at NW. cor. State St. and S. Park Row from May 23, 1883.. 204 22— | 302 34 | |
| Engine Houses..... | 182 63 | |
| Lake Side Park, West | 72 00 | |
| Central Park, West... | 50 00 | |
| Central Park, East.... | 50 00 | |
| Lake Side Park, East | 17 90— | \$ 31,078 78 |
| INTEREST —From Second National Bank Balances, October 1, 1895, to April 1, 1896..... | 153 56 | |
| April 1, 1896, to October 1, 1896..... | 96 25— | 249 81 |
| Balance..... | \$673,305 55— | \$704,634 14 |
| CREDITS. | | |
| BALANCE —December 31, 1895..... | \$676,090 52 | |
| INTEREST —On same to December 31, 1896..... | 27,043 62 | |
| RENT —Of Offices one year (including old Common Council Room)..... | 1,500 00— | \$704,634 14 |
| Balance due the City of Erie, Penna, December 31, 1896... | \$673,305 55 | |

1896.

Statement of Resources and Liabilities December 31,

1896.

RESOURCES.

PLANT NORTH OF FRONT STREET—Buildings and Grounds,
including Piers to Intake No. 1.....

Engine House No. 3, from January 1, 1892.....

Boilers from January 1, 1891.....

New Boiler Equipment from January 1, 1896.....

Engines and Boilers to January 1, 1891.....

Engine No. 4 from January 1, 1892.....

Electric Light Plant.....

Engine Room Furniture and Fixtures.....

Intake Pipes—No. 1.....

No. 2 from January 1, 1892.....

Railroad Switch and Scales.....

Water Lots from January 1, 1895.....

PLANT SOUTH OF FRONT STREET—Connections.....

Drinking Fountains from January 1, 1894.....

Fire Hydrants.....

Mains and Branches.....

Main, 30-inch.....

Meters.....

Stop Valves.....

Office Furniture and Fixtures.....

Reservoir.....

PERSONAL—Cash in hands of Treasurer, City of Erie.....

Accounts Assessed.....

Meter.....

Plumbing.....

LIABILITIES.

ACCOUNTS—City of Erie, Pa.....

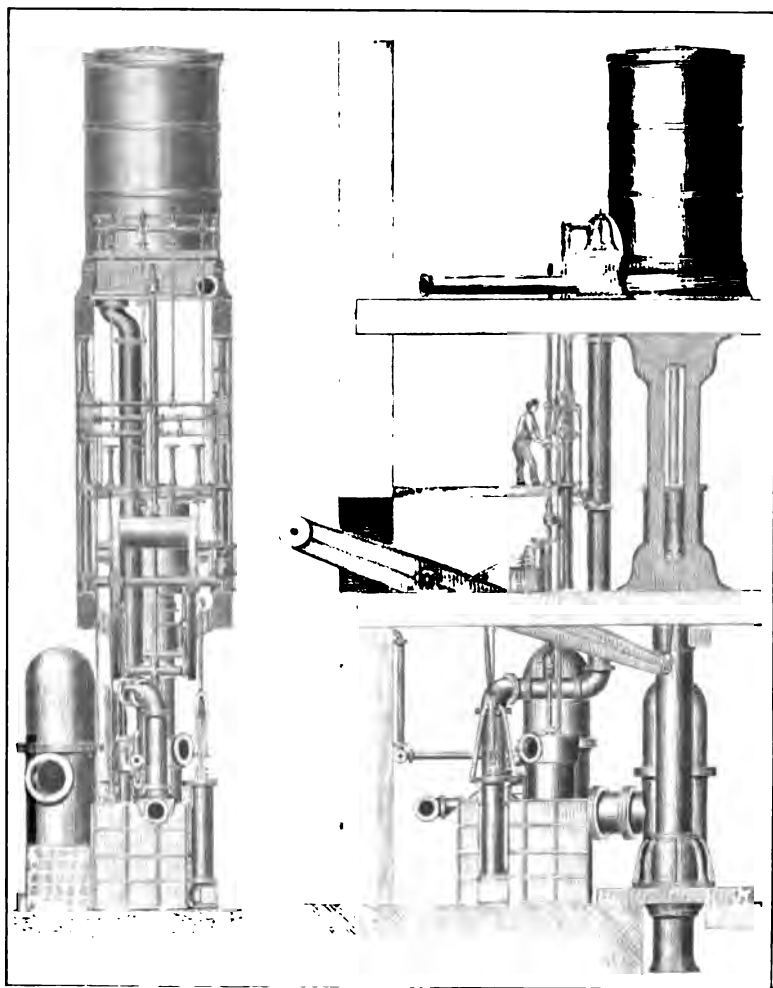
Advanced on assessed.....

Balance.....

WATER WORKS, IN THE CITY OF ERIE.

47

| | | |
|--------------|--------------|---------------------------|
| \$106,030 50 | | |
| 21,591 35 | \$127,621 85 | |
| 3,409 15 | | |
| 39 18 | | |
| 104,325 20 | | |
| 49,058 00 | 156,831 53 | |
| | 732 69 | |
| | 1,549 20 | |
| 55,568 44 | | |
| 137,920 72 | 193,489 16 | |
| | 3,262 09 | |
| | 15,794 07 | \$499,280 59 |
| 121,502 81 | | |
| 1,307 83 | | |
| 28,045 57 | | |
| | | |
| \$564,220 66 | | |
| 83,327 29 | | |
| 647,547 95 | | |
| 18,367 16 | | |
| 35,987 02 | 852,758 34 | |
| | 1,084 88 | |
| | 137,629 35 | 991,472 57 |
| | | 1,490,753 16 |
| | 635 29 | |
| 367 27 | | |
| 6,183 32 | | |
| | 6,550 59 | |
| | 398 06 | |
| | 6,948 65 | 7,583 94 \$1,498,337 10 |
| | | |
| | 673,305 55 | |
| | 191 34 | 673,496 89 |
| | | 824,840 21 \$1,498,337 10 |



CORNISH BULL PUMP.

BALANCE SHEET.—INDIVIDUAL LEDGERS.

1896.

WARD.

ASSESSMENT ACCOUNTS.

| | Balance from Dec. 31, 1885. | Assessments. | Additions. | Penalties. | Balance to Jan. 1, 1887. | Total. | Balance from Dec. 31, 1886. | Dedu- ctions. | Cash. | Balance to Jan. 1, 1887. |
|----------|--------------------------------|--------------|------------|------------|-----------------------------|-------------|--------------------------------|------------------|-------------|-----------------------------|
| First. | 9 54 00 | \$12,840 98 | 8623 77 | \$88 26 | \$23 47 | \$13,040 17 | \$65 46 | \$611 00 | \$12,165 43 | \$80 19 |
| Second. | 85 61 | 20,862 08 | 92 63 | 92 63 | 20 80 | 22,040 21 | 42 82 | 823 43 | 21,124 23 | 101 25 |
| Third. | 103 25 | 23,288 68 | 1,031 81 | 93 80 | 44 21 | 24,401 74 | 46 32 | 963 68 | 23,401 20 | 60 64 |
| Fourth. | 88 80 | 16,802 19 | 921 81 | 91 68 | 43 40 | 19,049 73 | 34 13 | 1,220 93 | 18,072 06 | 42 01 |
| Fifth. | 70 32 | 8,404 99 | 943 57 | 57 61 | 12 50 | 9,103 92 | 19 68 | 300 12 | 8,666 95 | 58 27 |
| Sixth. | 10,367 60 | 407 61 | 57 61 | 54 24 | 11 70 | 11,035 02 | 12 53 | 416 89 | 10,580 28 | 37 27 |
| Seventh. | 31 75 | 828 72 | 48 05 | 3 62 | 26 17 | 1,088 31 | 83 | 97 68 | 832 18 | 7 64 |
| Total. | 485 74 | 85,614 23 | 4,587 54 | 481 82 | 191 34 | 101,240 67 | 221 27 | 4,389 70 | 98,232 43 | 367 27 |

METER ACCOUNTS.

| | | | | | | | | | | |
|----------|----------|-----------|--------|--------|--------|-----------|--------|-------|-----------|----------|
| First. | 848 70 | 3,510 46 | 10 19 | 62 36 | 10 19 | 4,389 35 | 10 19 | 4 18 | 3,385 05 | 180 12 |
| Second. | 2,987 20 | 11,710 71 | 32 68 | 21 56 | 20 80 | 14,730 27 | 42 82 | 12 38 | 11,574 38 | 3,143 51 |
| Third. | 917 60 | 3,703 32 | 8 16 | 8 16 | 44 21 | 4,682 48 | 46 32 | 23 89 | 3,745 54 | 873 05 |
| Fourth. | 247 30 | 1,285 03 | 607 90 | 2 82 | 91 68 | 1,480 40 | 34 13 | 1 17 | 1,183 71 | 315 61 |
| Fifth. | 607 90 | 3,000 63 | 210 96 | 773 14 | 12 50 | 3,651 44 | 19 68 | 1 92 | 2,980 52 | 630 00 |
| Sixth. | 210 96 | 773 14 | 312 76 | 19 69 | 26 17 | 1,664 39 | 12 53 | 37 09 | 1,585 07 | 199 22 |
| Seventh. | 244 76 | 312 76 | 124 97 | 19 69 | 26 17 | 577 20 | 83 | 79 63 | 498 30 | 41 81 |
| Total. | 6,034 50 | 24,236 05 | 124 97 | 124 97 | 191 34 | 30,385 52 | 221 27 | 79 63 | 24,132 57 | 6,183 32 |

SPECIAL PERMITS.

| | | | | | | | | | | |
|----------|--|--------|--|--|--|--------|--|--|--------|--|
| First. | | 31 62 | | | | 31 62 | | | 31 62 | |
| Second. | | 32 68 | | | | 32 68 | | | 32 68 | |
| Third. | | 101 60 | | | | 101 60 | | | 101 60 | |
| Fourth. | | 53 21 | | | | 53 21 | | | 53 21 | |
| Fifth. | | 23 50 | | | | 23 50 | | | 23 50 | |
| Sixth. | | 11 45 | | | | 11 45 | | | 11 45 | |
| Seventh. | | 11 25 | | | | 11 25 | | | 11 25 | |
| Total. | | 295 31 | | | | 295 31 | | | 295 31 | |

BUILDING PERMITS.

| | | | | | | | | | | |
|----------|----------|------------|----------|--------|--------|------------|--------|----------|------------|----------|
| First. | | 65 44 | | | | 65 44 | | | 65 44 | |
| Second. | | 176 64 | | | | 176 64 | | | 176 64 | |
| Third. | | 205 14 | | | | 205 14 | | | 205 14 | |
| Fourth. | | 129 16 | | | | 129 16 | | | 129 16 | |
| Fifth. | | 76 97 | | | | 76 97 | | | 76 97 | |
| Sixth. | | 88 93 | | | | 88 93 | | | 88 93 | |
| Seventh. | | 30 45 | | | | 30 45 | | | 30 45 | |
| Total. | | 752 13 | | | | 752 13 | | | 752 13 | |
| Water. | 6,520 24 | 120,788 22 | 4,587 54 | 606 79 | 191 34 | 132,684 13 | 221 27 | 4,479 33 | 121,442 94 | 6,550 50 |

PLUMBING ACCOUNTS.

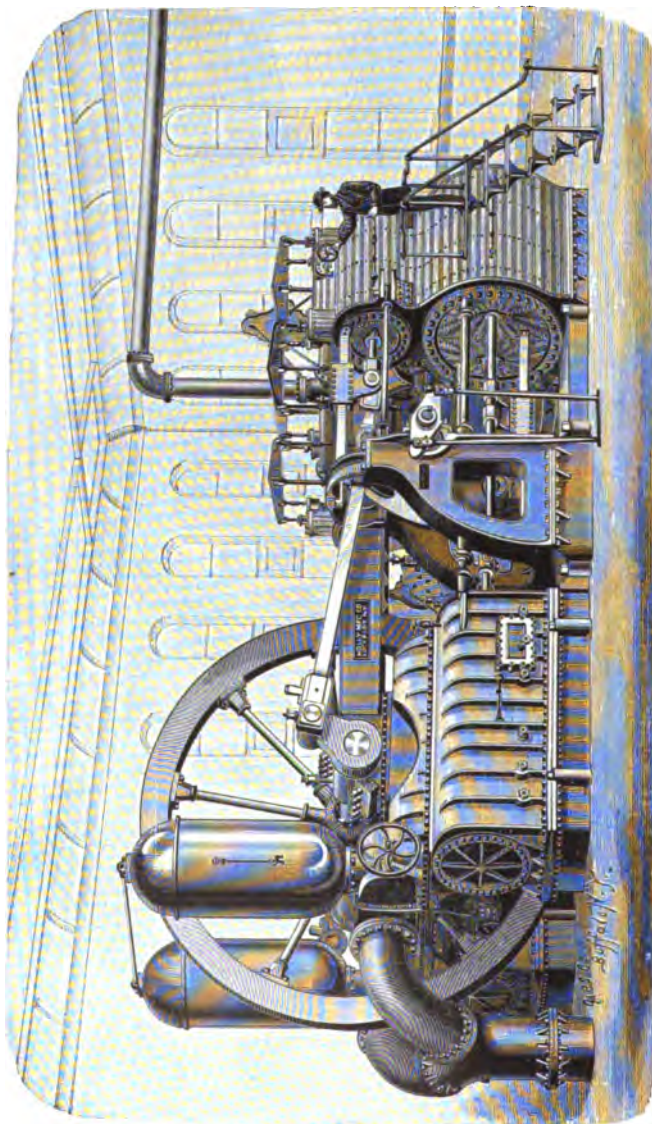
| | | | | | | | | | | |
|--------------|----------|------------|----------|--------|--------|------------|--------|----------|------------|----------|
| First. | 9 06 | 67 98 | | | | 67 06 | | 73 | 16 66 | 49 67 |
| Second. | 25 56 | 62 51 | | | | 88 07 | | 9 42 | 72 47 | 6 18 |
| Third. | 130 14 | 392 35 | | | | 522 49 | | 101 08 | 160 25 | 261 16 |
| Fourth. | 71 81 | 182 95 | | | | 254 76 | | 58 91 | 128 74 | 67 11 |
| Fifth. | | 8 60 | | | | 8 60 | | | 8 60 | |
| Sixth. | | 32 32 | | | | 32 32 | | | 32 32 | 8 60 |
| Seventh. | | 97 18 | | | | 97 18 | | | 97 18 | 5 25 |
| Total. | 236 50 | 833 98 | | | | 1,070 57 | | 170 14 | 502 37 | 388 06 |
| Grand Total. | 6,756 83 | 121,622 20 | 4,587 54 | 606 79 | 191 34 | 133,764 70 | 221 27 | 4,649 47 | 121,945 31 | 6,948 65 |

Meter Accounts are rendered at the close of each quarter, which will explain the large balance to January 1, 1897.

| ITEMS ASSESSED. | FIRST WARD. | | SECOND W'D. | | THIRD WARD. | | FOURTH W'D. | | FIFTH W'D. | | SIXTH WARD. | | TOTALS. | |
|----------------------------|-------------|----------|-------------|-----------|-------------|----------|-------------|----------|------------|----------|-------------|----------|---------|-----------|
| | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. |
| Air Pumps..... | 4 | \$ 12 00 | 13 | \$ 39 00 | 21 | 63 00 | 6 | 18 00 | 4 | \$ 12 00 | 5 | \$ 15 00 | 53 | \$ 159 00 |
| Bakeries..... | 1 | 5 00 | 5 | 25 00 | 2 | 14 36 | 3 | 25 80 | 3 | 15 00 | 6 | 34 36 | 20 | 119 52 |
| Banks..... | 3 | 15 00 | | | 1 | 10 00 | 2 | 10 00 | | | | | 6 | 35 00 |
| Barber Chairs..... | 24 | 66 00 | 38 | 123 00 | 46 | 132 00 | 18 | 50 00 | 10 | 32 00 | 19 | 56 00 | 155 | 459 00 |
| Bath Tubs..... | 284 | 851 11 | 269 | 811 50 | 601 | 1,811 67 | 512 | 1,466 50 | 100 | 297 00 | 157 | 457 50 | 1,927 | 5,713 28 |
| Bicycle Schools..... | 1 | 5 00 | | | 1 | 3 00 | | | | | | | 2 | 8 00 |
| Billiard Tables..... | 9 | 9 00 | 2 | 2 00 | 16 | 16 00 | 6 | 6 00 | 3 | 3 00 | | | 36 | 36 00 |
| Blacksmith Fires..... | 4 | 17 50 | 12 | 50 00 | 13 | 52 50 | 6 | 25 00 | 2 | 10 00 | 1 | 5 00 | 38 | 160 00 |
| Boat Houses..... | 3 | 30 00 | | | | | 1 | 10 00 | | | | | 4 | 40 00 |
| Bonds, etc..... | 4 | 9 16 | 5 | 40 33 | 14 | 43 13 | 4 | 10 18 | 17 | 75 04 | 12 | 56 41 | 61 | 367 78 |
| Bottling Works..... | 1 | 5 00 | 1 | 6 00 | | | 2 | 20 00 | | | | | 4 | 31 00 |
| Bowling Alley..... | | | 1 | 5 00 | 2 | 6 67 | | | 1 | 5 00 | | | 4 | 16 67 |
| Churches & S. Schools..... | 1 | 3 00 | 7 | 29 00 | 11 | 53 00 | 9 | 45 00 | | | 4 | 20 00 | 32 | 150 00 |
| City Parks..... | 2 | 67 90 | | | | | 2 | 122 00 | | | | | 4 | 189 90 |
| Club Rooms..... | 2 | 6 00 | 8 | 52 00 | 11 | 37 00 | 8 | 28 00 | 1 | 3 00 | 1 | 3 00 | 31 | 129 00 |
| Cows..... | 10 | 7 50 | 17 | 12 75 | 8 | 6 00 | 8 | 6 00 | 24 | 17 50 | 15 | 11 25 | 85 | 65 50 |
| Eating Houses..... | 1 | 8 00 | 8 | 40 00 | 16 | 78 00 | 5 | 25 00 | | | | | 31 | 150 00 |
| Engine Houses..... | 1 | 5 00 | 1 | 5 00 | 1 | 10 00 | 1 | 5 00 | 1 | 5 00 | 2 | 10 00 | 7 | 40 00 |
| Elevators..... | 1 | 120 00 | 2 | 10 00 | 1 | 60 00 | 1 | 6 00 | | | | | 5 | 196 00 |
| Engine Horse Power..... | 85 | 166 25 | 216 | 405 35 | 113 | 225 00 | 118 | 63 11 | 62 | 100 70 | 24 | 60 00 | 648 | 1,069 91 |
| Families..... | 1290 | 6,443 51 | 2349 | 11,738 34 | 1791 | 8,951 66 | 1473 | 7,365 00 | 1025 | 5,121 06 | 1221 | 6,105 01 | 9,188 | 46,017 09 |
| Fish Hatchery..... | | | | | | | 1 | 400 00 | | | | | 1 | 400 00 |
| Fish Houses and Ponds..... | | | | | | | 2 | 35 00 | | | | | 2 | 35 00 |
| Fountains..... | 2 | 30 00 | 4 | 36 00 | 4 | 26 00 | 4 | 177 50 | 1 | 15 00 | 1 | 15 00 | 16 | 299 50 |
| Glass Washers..... | | | | | | | 2 | 20 00 | | | | | 2 | 20 00 |
| Green Houses..... | | | | | | | 4 | 10 35 | 1 | 5 92 | 20 | 32 30 | 45 | 103 22 |
| Hand Basins..... | 319 | 281 37 | 392 | 358 50 | 843 | 718 16 | 681 | 557 00 | 65 | 52 33 | 162 | 141 83 | 2,466 | 2,125 19 |
| Heating Boilers 11 P..... | 265 | 59 58 | 263 | 65 75 | 596 | 146 42 | 612 | 160 50 | 80 | 22 50 | 81 | 20 25 | 4 | 6 00 |
| Horses..... | 161 | 237 00 | 336 | 444 00 | 393 | 537 00 | 337 | 419 00 | 195 | 271 00 | 213 | 308 00 | 1,967 | 490 00 |
| Laundries..... | 1 | 5 00 | 3 | 15 00 | 3 | 15 00 | 2 | 10 00 | | | | | 1,650 | 2,249 00 |
| Lodging Rooms..... | 193 | 193 00 | 202 | 288 50 | 461 | 457 00 | 232 | 232 00 | 37 | 31 17 | 66 | 5 00 | 10 | 50 00 |
| Meat Markets..... | 8 | 33 00 | 18 | 101 00 | 17 | 102 00 | 10 | 45 00 | 8 | 48 00 | 8 | 42 00 | 1,288 | 1,252 67 |
| | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|----------------------------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|----------|-------|-----------|-------|----------|
| Offices..... | 66 | 228 58 | 94 | 334 00 | 100 | 343 00 | 86 | 394 00 | 2 | 6 00 | 4 | 12 00 | 352 | 1,317 58 |
| Opera Houses..... | ..... | ..... | ..... | ..... | 2 | 20 00 | 1 | 10 00 | ..... | ..... | ..... | ..... | 3 | 30 00 |
| Photograph Rooms..... | ..... | ..... | ..... | ..... | 5 | 25 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 12 | 60 00 |
| Printing Offices..... | 1 | 10 00 | 1 | 30 00 | 5 | 40 00 | 1 | 5 00 | ..... | ..... | ..... | ..... | 8 | 85 00 |
| Public Halls..... | 6 | 30 00 | 10 | 55 00 | 12 | 76 66 | 8 | 40 00 | 3 | 15 00 | 5 | 25 00 | 44 | 241 66 |
| Saloons..... | 9 | 45 00 | 33 | 165 00 | 30 | 150 00 | 13 | 65 00 | 10 | 50 00 | 8 | 40 00 | 104 | 522 50 |
| School Scholars..... | 1053 | 94 63 | 1797 | 179 70 | 1711 | 171 10 | 797 | 79 70 | 1350 | 135 00 | 900 | 85 73 | 7608 | 745 86 |
| Slaughter Houses..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 | 10 00 | ..... | ..... | 3 | 18 00 |
| Stores..... | 67 | 270 00 | 148 | 538 00 | 187 | 818 00 | 82 | 330 00 | 46 | 152 00 | 35 | 123 00 | 565 | 2,231 00 |
| Adjoining Lot..... | 26 | 77 47 | 18 | 56 70 | 33 | 109 55 | 44 | 133 90 | 17 | 53 08 | 9 | 31 00 | 147 | 461 70 |
| Curb..... | 63 | 219 83 | 46 | 179 75 | 118 | 430 05 | 162 | 651 14 | 15 | 54 80 | 30 | 116 65 | 4 | 23 85 |
| In House..... | 52 | 168 85 | 102 | 333 15 | 51 | 164 70 | 43 | 145 85 | 66 | 228 21 | 66 | 214 66 | 2 | 14 93 |
| Hydrant..... | 47 | 163 35 | 45 | 157 15 | 62 | 238 00 | 85 | 380 86 | 37 | 147 15 | 53 | 218 69 | 1 | 4 50 |
| Lawn..... | 37 | 129 45 | 49 | 182 85 | 103 | 466 56 | 82 | 285 05 | 50 | 197 62 | 71 | 247 39 | 10 | 70 39 |
| Sill Cock..... | 266 | 859 06 | 338 | 1,083 95 | 593 | 1,689 75 | 442 | 1,339 27 | 232 | 775 56 | 352 | 1,104 37 | 5 | 20 47 |
| Total Sprinklers..... | 491 | 1,618 01 | 598 | 1,993 55 | 960 | 3,098 61 | 858 | 2,486 08 | 417 | 1,456 42 | 581 | 1,932 76 | 22 | 134 15 |
| Urinals..... | 37 | 123 11 | 65 | 209 00 | 100 | 330 50 | 56 | 181 00 | 9 | 36 66 | 19 | 55 66 | ..... | 286 |
| U. S. S. Michigan..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 30 00 | ..... | ..... | ..... | ..... | ..... | 1 |
| Warehouses..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 |
| Work Shops..... | 23 | 100 00 | 39 | 144 00 | 40 | 138 00 | 22 | 68 00 | 7 | 25 00 | 7 | 25 00 | 1 | 7 50 |
| Wash Tubs..... | 90 | 130 66 | 52 | 79 00 | 248 | 359 00 | 256 | 370 00 | 12 | 17 00 | 51 | 61 00 | ..... | 709 |
| Wash Revolving..... | ..... | ..... | ..... | ..... | 6 | 30 00 | ..... | ..... | ..... | ..... | 1 | 5 00 | ..... | 9 |
| Total Wash Tubs..... | 90 | 130 66 | 54 | 89 00 | 254 | 385 00 | 256 | 370 00 | 12 | 17 00 | 52 | 66 00 | ..... | 718 |
| Water Motors..... | ..... | ..... | ..... | ..... | 3 | 18 00 | 6 | 40 00 | ..... | ..... | ..... | ..... | ..... | 9 |
| Water Troughs..... | ..... | ..... | ..... | ..... | 2 | 20 00 | 1 | 10 00 | 9 | 90 00 | 2 | 20 00 | ..... | 19 |
| Non-Clos'g Hopper..... | 58 | 114 00 | 66 | 179 00 | 81 | 113 00 | 13 | 70 50 | 2 | 12 00 | 25 | 41 00 | ..... | 245 |
| Self-Clos'g Hopper..... | 62 | 205 50 | 57 | 217 00 | 121 | 345 00 | 152 | 403 00 | 31 | 66 00 | 22 | 78 00 | ..... | 445 |
| Pan or Tank..... | 564 | 1,602 08 | 807 | 2,502 00 | 1379 | 4,145 50 | 969 | 2,689 00 | 203 | 620 50 | 289 | 869 50 | 4 | 18 00 |
| Total Water Closet..... | 684 | 1,922 48 | 930 | 2,898 00 | 1581 | 4,603 50 | 1134 | 3,162 50 | 236 | 698 50 | 336 | 988 50 | 4 | 18 00 |
| Yacht Club and Yachts..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 | 24 00 | ..... | ..... | ..... | ..... | ..... | 2 |
| Grand Totals for 1897..... | 5207 | 13,268 38 | 8045 | 21,446 32 | 9979 | 23,820 94 | 7429 | 19,136 22 | 3744 | 8,849 42 | 3970 | 10,822 06 | 195 | 784 28 |
| Grand Totals for 1896..... | 5217 | 12,652 25 | 7582 | 20,550 55 | 9813 | 22,979 86 | 6966 | 18,617 96 | 3056 | 8,272 46 | 3659 | 10,112 99 | 203 | 877 75 |
| Total Gain for 1897..... | ..... | 616 13 | 463 | 895 77 | 166 | 841 08 | 463 | 518 26 | 688 | 576 96 | 311 | 709 07 | ..... | 2091 |
| Total Loss for 1897..... | 10 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 8 | 93 47 |
| Net Gain for 1897..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2073 |

Net Gain for 1897 \$ 4,003 80



GASKILL HORIZONTAL COMPOUND PUMP.

Statement of Work Done by Inspector No. 1 in 1896.

| Month. | TURNED OFF ACCOUNTS. | | | INVESTIGATION. | | | Total. | | |
|----------------|----------------------|------------|------------------|----------------|-----------|-------------|------------|-------------|------------------|
| | Unpaid. | Vacancies. | Leaks and Waste. | Paid. | Occupied. | New Houses. | | Complaints. | Leaks and Waste. | New Work. |
| January..... | 40 | | | | 38 | 16 | Frozen. 23 | | 68 |
| February..... | 13 | | 2 | 11 | 30 | 21 | Frozen. 48 | | 103 |
| March..... | 7 | | | 2 | 36 | 38 | | | 246 |
| April..... | 23 | | | | 77 | 60 | Frozen. 6 | | 165 |
| May..... | 9 | | 1 | 8 | 36 | 46 | | 1 | 179 |
| June..... | 29 | | | | 19 | 22 | | | 283 |
| July..... | 14 | | | | 19 | 26 | | | 220 |
| August..... | 23 | | | | 15 | 26 | | | 165 |
| September..... | 26 | | | 18 | 44 | 27 | | | 170 |
| October..... | 20 | | | 1 | 22 | 35 | 2 | | 113 |
| November..... | 73 | | | | 41 | 26 | | | 161 |
| December..... | 57 | | | 3 | 21 | 30 | | | 90 |
| | 2 | | | 3 | 21 | 19 | | | 206 |
| | | | | | 400 | 365 | 79 | 2 | 1,580 |
| Total..... | 50 | 356 | 3 | 45 | | | | | 2,880 |

Statement of Work Done by Inspector No. 2 in 1896.

| Ward. | Number of Premi sea In- spected | No. of Draw Cocks | No. of Hy- drants. | No. of 'Goose Necks | NO. OF SPRINKLERS. | | | No. of Bath Tubs. | No. of Wash- Tubs. | NO. OF WATER CLOSETS. | | | No. of Urinals | No. of Hland Basins. | No. of Air Pumps. | No. of Heat- ing Boilers. | No. of Eng- ines. | Total. |
|--------------|---------------------------------------|-------------------------|-----------------------|---------------------------|--------------------|---------------|---------------|-------------------------|--------------------------|-----------------------|---------------------------|--------------|-------------------|----------------------------|-------------------------|------------------------------------|-------------------------|--------|
| | | | | | Hy- drant. | Lawn Cocks | Sill Cocks | | | Closing Hopper | Non- Closing Hopper | Pan Tank. | | | | | | |
| First..... | 1,253 | 1,277 | 63 | 50 | 43 | 293 | 284 | 90 | 62 | 59 | 563 | 37 | 319 | 4 | 12 | 8 | 4,568 | |
| Second..... | 2,100 | 2,319 | 46 | 45 | 49 | 338 | 289 | 64 | 57 | 66 | 907 | 65 | 392 | 13 | 13 | 18 | 7,042 | |
| Fifth..... | 979 | 1,074 | 17 | 38 | 50 | 296 | 101 | 12 | 13 | 20 | 203 | 9 | 68 | 4 | 5 | 5 | 2,941 | |
| Seventh..... | 28 | 25 | 1 | 2 | 3 | 5 | 1 | ..... | ..... | ..... | 2 | ..... | 1 | ..... | ..... | 1 | 72 | |
| Total | 4,340 | 4,725 | 127 | 135 | 145 | 842 | 655 | 156 | 132 | 145 | 1,575 | 111 | 780 | 21 | 30 | 32 | 14,623 | |

Statement of Work Done by Inspector No. 3 in 1896.

| | | | | | | | | | | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Third | 2,220 | 207 | 10 | 118 | 62 | 103 | 593 | 243 | 121 | 81 | 1,370 | 100 | 843 | 21 | 24 | 11 | 8,483 |
| Fourth | 1,744 | 289 | 19 | 162 | 85 | 82 | 442 | 512 | 256 | 13 | 969 | 56 | 981 | 6 | 30 | 7 | 6,977 |
| Fifth | 1,390 | 355 | 16 | 31 | 53 | 71 | 352 | 157 | 52 | 22 | 235 | 19 | 162 | 5 | 6 | 3 | 3,818 |
| Sixth | 1,210 | 6 | 4 | ..... | ..... | 25 | 4 | 3 | ..... | ..... | 2 | ..... | 4 | ..... | ..... | ..... | 1,223 |
| Seventh | 51 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | 4,357 | 637 | 45 | 315 | 200 | 281 | 1,391 | 1,270 | 556 | 285 | 119 | 2,639 | 1,690 | 32 | 60 | 21 | 19,401 |

Statement of Meters December 31, 1896.

| KIND. | IN USE. | | | | | | | | | | NOT IN USE. | | | | | | | | | | TOTAL. | | | | | | | | | | | | | |
|--|---------|-----|-----|-----|-----|-----|-----|--------|-----|-----|-------------|-----|-----|-----|-----|--------|-----|-----|-----|-----|--------|-----|-----|--------|-----|-----|-----|-----|-----|-----|-----|--------|----|-----|
| | SIZE. | | | | | | | | | | SIZE. | | | | | | | | | | SIZE. | | | | | | | | | | | | | |
| | % | 1 | 1½ | 2 | 3 | 4 | 6 | Total. | % | 1 | 1½ | 2 | 3 | 4 | 6 | Total. | % | 1 | 1½ | 2 | 3 | 4 | 6 | Total. | % | 1 | 1½ | 2 | 3 | 4 | 6 | Total. | | |
| Union | 43 | 7 | 13 | 12 | 6 | 8 | ... | 89 | ... | 4 | 2 | ... | 2 | ... | 1 | 9 | ... | 47 | 9 | 13 | 14 | 6 | 9 | 98 | ... | 47 | 9 | 13 | 14 | 6 | 9 | 98 | | |
| Worthington..... | 3 | 9 | 5 | 1 | 1 | ... | ... | 19 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 3 | 10 | 5 | 1 | 1 | ... | 20 | ... | 3 | 10 | 5 | 1 | 1 | ... | 20 | | |
| Thomson..... | 3 | 6 | 4 | 3 | 4 | 1 | 4 | 25 | ... | ... | 1 | 1 | ... | ... | ... | 2 | ... | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 | ... | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 |
| Crown..... | 3 | 3 | 1 | 6 | 1 | 2 | ... | 16 | ... | 1 | ... | 2 | ... | ... | ... | 4 | ... | 1 | 4 | 3 | 1 | 8 | 1 | 2 | 20 | ... | 1 | 4 | 3 | 1 | 8 | 1 | 2 | 20 |
| Empire..... | ... | 2 | ... | 3 | ... | ... | ... | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 5 | ... | ... | ... | ... | ... | ... | ... | 5 | | |
| National..... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | | |
| Gem..... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | 3 | | |
| Total..... | 3 | 55 | 25 | 23 | 26 | 9 | 14 | 155 | ... | 1 | 5 | 3 | 1 | 8 | 1 | 20 | ... | 4 | 60 | 28 | 24 | 34 | 9 | 15 | 174 | ... | 4 | 60 | 28 | 24 | 34 | 9 | 15 | 174 |
| One 1-inch Worthington scraped, not worth repairing. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KIND. | Good. | | | | | | | | | | Poor. | | | | | | | | | | TOTAL. | | | | | | | | | | | | | |
| | SIZE. | | | | | | | | | | SIZE. | | | | | | | | | | SIZE. | | | | | | | | | | | | | |
| | % | 1 | 1½ | 2 | 3 | 4 | 6 | Total. | % | 1 | 1½ | 2 | 3 | 4 | 6 | Total. | % | 1 | 1½ | 2 | 3 | 4 | 6 | Total. | % | 1 | 1½ | 2 | 3 | 4 | 6 | Total. | | |
| Union..... | 47 | 9 | 13 | 14 | 6 | 9 | ... | 98 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 47 | 9 | 13 | 14 | 6 | 9 | 98 | ... | 47 | 9 | 13 | 14 | 6 | 9 | 98 | | |
| Worthington | 3 | 10 | 5 | 1 | 1 | ... | ... | 20 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 10 | 5 | 1 | 1 | ... | 20 | ... | 3 | 10 | 5 | 1 | 1 | ... | 20 | | |
| Thomson..... | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 | ... | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 |
| Crown..... | 1 | 4 | 3 | 1 | 8 | 1 | 2 | 20 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 4 | 3 | 1 | 8 | 1 | 2 | 20 | ... | 1 | 4 | 3 | 1 | 8 | 1 | 2 | 20 |
| Empire..... | ... | 2 | ... | 3 | ... | ... | ... | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 5 | ... | ... | ... | ... | ... | ... | ... | 5 | | |
| National..... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | | |
| Gem..... | ... | ... | ... | 3 | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | 3 | | |
| Total..... | 4 | 60 | 28 | 24 | 34 | 9 | 15 | 174 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 60 | 28 | 24 | 34 | 9 | 15 | 174 | ... | 4 | 60 | 28 | 24 | 34 | 9 | 15 | 174 |

Pumping Engine Statistics for 1896.

The pumps are four in number. Nos. 1 and 2 are known as the Cornish Bull Pumps. The diameter of each plunger is $20\frac{3}{4}$ inches, and each has a stroke of 10 feet. The capacity of each pump is estimated to be 165 gallons to each stroke. Pump No. 3 is a Gaskill Horizontal Compound Pumping Engine, having two H. P. cylinders 21 in. diameter, two L. P. cylinders 42 in. diameter, and two pumps $19\frac{1}{2}$ in. diameter, and all 36 in. stroke, of a guaranteed capacity of 5,000,000 gallons daily at a piston speed of 120 feet per minute against a head of 237 feet. Pump No. 4 is a Worthington Horizontal Compound High Duty Engine, having two H. P. cylinders 33 in. diameter, two L. P. cylinders 66 in. diameter, and two pumps 29 in. diameter, and all $40\frac{3}{4}$ in. stroke of a guaranteed capacity of 12,000,000 gallons daily at a piston speed of 128 feet per minute against a head of 260 feet. The Stand Pipe is 259.65 feet high. The Reservoir is nearly two miles from the Pumping works, the bottom of which is 210 feet above the surface of the Bay, and the water has been maintained during the year at an average depth in the Reservoir of 26.04 feet, making the average contents 32,000,000 gallons.

| | No. 1. | | No. 2. | | No. 3. | | No. 4. | | Totals. | | Average Lift in Feet. |
|--------|--------------------|---------|-----------|----------|-------------|----------|---------------|----------|---------------|---------------|-----------------------|
| Month. | Days Run | Gallons | Days Run | Gallons. | Days Run | Gallons. | Days Run | Gallons. | Days Run | Daily Average | |
| Jan. | Out of Commission. | 2 | 1,707,750 | 3 | 15,590,292 | 28 | 152,626,896 | 33 | 169,914,838 | 5,481,127 | 237.73 |
| Feb. | | 3 | 7,066,950 | 10 | 53,756,894 | 20 | 117,081,960 | 33 | 177,904,794 | 6,134,648 | 237.27 |
| March | | | | | | 31 | 172,650,144 | 31 | 172,650,144 | 5,569,359 | 238.38 |
| April | | | | 4 | 13,064,870 | 29 | 138,204,240 | 32 | 151,269,110 | 5,042,303 | 237.87 |
| May | | | | | | 31 | 169,204,560 | 31 | 169,204,560 | 5,458,211 | 237.47 |
| June | | | | 5 | 24,008,166 | 27 | 148,856,736 | 32 | 172,864,902 | 5,762,163 | 237.36 |
| July | | | | | | 31 | 175,399,104 | 31 | 175,399,104 | 5,658,035 | 237.79 |
| August | | | | | | 31 | 174,288,480 | 31 | 174,288,480 | 5,622,209 | 237.74 |
| Sept. | | | | | | 30 | 161,002,944 | 30 | 161,002,944 | 5,366,764 | 238.37 |
| Oct. | | | | | | 31 | 159,689,736 | 31 | 159,689,736 | 5,151,281 | 237.93 |
| Nov | | | | | | 29 | 150,030,840 | 29 | 150,030,840 | 5,173,477 | 236.48 |
| Dec. | | | | 4 | 17,653,272 | 30 | 153,884,004 | 34 | 171,538,176 | 5,717,989 | 236.77 |
| Total. | | 5 | 8,774,706 | 26 | 124,062,484 | 347 | 1,872,920,544 | 378 | 2,005,757,728 | 5,480,212 | 237.60 |

The regular employees at the Pumping Works are one chief engineer, two assistant engineers, three firemen, one watchman and one janitor. The chief engineer stands a watch of five hours, from 7 to 12 every forenoon; the assistants divide the remainder of each day equally between them; each one of the firemen stands a watch of eight hours. Besides firing, the firemen unload the coal from the cars, except when two pumps are run, in which case they are assisted by the watchman or a laborer. The chief engineer gives daily ten hours' service; when not on watch, is employed in repairs, supervision, etc. In addition to standing their regular watch, the assistant engineers aid their superior officer in keeping the machinery in order. The watchman takes care of the grounds and does such other work as may be required of him. The janitor takes care of the buildings.

Main Pipe Laid In 1896.

| STREET. | LOCATION. | SIZES. | | | | | REMARKS. |
|--------------------------------------|------------|-----------|-----------|-----------|-----------|-----------|---|
| | | 1 in. | 4 in. | 6 in. | 8 in. | 12 in. | |
| | | Feet. In. | Feet. In. | Feet. In. | Feet. In. | Feet. In. | |
| 2d, bet. Plum and Cascade... | | 177 | | | | | { Hyd. Branch taken out 167 feet west of Plum N. 3. |
| 2d, cor. Plum..... | | 9 | | | | | Hydrant Branch. |
| N. Park Row, s.w. cor. State..... | | | | | | | { 75 ft. 3/4-in. pipe aband'd which 1 pt. of water trough |
| 6th, bet. Parade & East Ave..... | 42 1 | | | | | | Hydrant Branches. |
| 7th, bet. Poplar & Liberty | | | 142 | | | | |
| 7th, cor. Cascade..... | 7 5 | | | | | | Hydrant Branch. |
| 8th, bet. Wayne & Perry..... | 222 6 *8 3 | | | 221 6 | | | *Hyd't Branch. |
| 8th, crossing State..... | | | | 95 | | | { 70 ft. 4-in. pipe was abandoned in same place. |
| th, bet. Cascade & Cranberry | 14 8 | | | | | | Hydrant Branches. |
| 9th, at intersection of State..... | | | | | 21 | | { 21 ft. 4-in. pipe was taken out same place. |
| 10th, cor. Plum..... | 2 | | | | | | Hydrant Branch. |
| 10th, bet. Wallace & East Ave..... | 48 10 | | | | | | Hydr't Branches. |
| 11th, crossing State | | | | 82 | | | |
| 11th, Parade to Ash..... | | | | 135 0 | | | { 1350 ft. 4-in. taken out and replaced by 6-inch. |
| 11th, cor. Ash..... | *8 6 | | | | | | { Hyd't Br. taken out cor. |
| 11th, bet. Wallace & Ash..... | *9 4 | | | | | | { 11th & Ash. 9 ft. 4-in. pipe |
| | | | | | | | *Hydrant Branches. |
| 12th, State to Chestnut..... | | | | | | 2611 8 | { 2611.8 ft. 6-in. pipe abandoned on 12th st. |
| 12th, bet. Peach & Chestnut | 35 10 | 43 7 | | | | | Hydrant Branch. |
| 15th, bet. Ash & Reed..... | *7 4 | 108 | | | | | *Hyd't Branch. |
| 16th, bet. Myrtle & Chestnut | | 24 | | | | | |
| 19th, eastward from Holland | | 23 | | | | | |
| 20th, westward from Liberty | | 143 | | | | | |
| Brown Ave. w. from Cascade | | 235 6 | | | | | |
| 22d, bet. Wayne & Perry..... | *8 10 | 626 | | | | | *Hyd't Branch. |
| 22d, eastward from Cascade.. | | 39 6 | | | | | |
| 22d, bet. Ash & Reed..... | | 146 8 | | | | | |
| 23d, westw. from Penn'a Ave | | 141 2 | | | | | |
| 23d, eastward from Plum..... | | 217 | | | | | |
| 23d, bet. Wallace & Ash..... | | 60 | | | | | |
| 24th, eastw. from Penn'a Ave | | 100 | | | | | |
| 25th, bet. Parade & German, | | 205 | | | | | |
| 25th, eastward from Holland | | 22 | | | | | |
| 26th, bet. Parade & Wallace | | | | | 436 | | |
| 27th, eastward from Plum..... | | 157 6 | | | | | |
| Perry, crossing 6th..... | | 106 6 | | | | | |
| Wayne, northw. from 10th.. | | 168 | | | | | |
| Wayne, crossing 6th..... | | 109 | | | | | |
| Reed, northward from 6th... | | 36 | | | | | |
| Ash, from 10th to 9th | | 408 3 | | | | | |
| Ash, southward from 6th..... | | 66 | | | | | |
| Wallace, northw. from 14th.. | | 105 10 | | | | | { 21 feet 4-inch taken out same place. |
| Wallace, northw. from 11th.. | | 21 | | | | | { 36 feet 4-inch taken out same place. |
| Wallace, crossing 6th..... | | 110 | | | | | |
| German, bet. 21st & 22d..... | | 254 4 | | | | | { 740.9 4-inch taken out bet. 7th & 9th. |
| Holland, from 7th to 9th..... | | 740 9 | | | | | Hydrant Branch. |
| Holland, cor. 25th..... | 10 | | | | | | { 233 feet 4-inch taken out same place. |
| Holland, southw. from 25th.. | | 233 | | | | | Hydrant Branch. |
| French, cor. 2d | 10 | | | | | | { 142 ft. 6-inch abandoned same place. |
| State, bet. 5th & North Park | | 138 | | | | | { 384 feet 4-inch taken out same place. |
| State, N. P'k to south of 11th | | | | 2233 | | | |
| State, from 10th to 11th..... | | 384 4 | | | | | |

Main Pipe Laid in 1896—Continued.

| STREET. | LOCATION. | SIZES. | | | | | REMARKS. |
|-----------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| | | 1 in. | 4 in. | 6 in. | 8 in. | 12 in. | |
| | | Feet, In. | Feet, In. | Feet, In. | Feet, In. | Feet, In. | |
| State, bet. N. Park & 13th..... | | 22 | 10 | 84 | 11 | | Hydrant Branches. |
| Peach, northward from 2d..... | | 184 | 4 | | | | 324 feet 1-inch abandoned (same place.) |
| Myrtle, north from 27th..... | | | | 231 | 10 | | |
| Myrtle, bet. 5th & 6th..... | | | | 204 | | | |
| Chestnut, south of 26th..... | | | | 85 | | | |
| Poplar, bet. 2d & 3d..... | | | | 163 | 6 | | |
| Liberty, south from 7th..... | *11 | | | 189 | 6 | | *Hydrant Branch |
| Liberty, n. from Brown Ave. | | | | 234 | | | |
| Liberty, from 18th to 19th..... | | | | 291 | 8 | | |
| Plum, bet. 23d & 24th..... | *9 | | | 168 | 6 | | *Hydrant Branch |
| Cascade, north from 9th..... | | | | 169 | 10 | | |
| Cascade, bet. 22d & 23d..... | | | | 144 | | | |
| Cascade, inters. of Brown Av | | | | 10 | | | |
| Raspberry, cor. 7th..... | | | 8 | 2 | | | Hydrant Branch. |
| Penn'a Ave., bet. 23d & 24th..... | | | | 330 | | | |
| Queen, east from East Ave..... | | 278 | 6 | | | | |
| Summit, north from 27th..... | | | | 108 | | | |
| Total..... | | 222 | 6 | 912 | 11 | 9478 | 2254 3047 8 |

Summary of Pipe Laid, abandoned and taken out during 1896.

| | | | | |
|--------------------------------|------|---------------|-------|------------|
| PIPE LAID— | | 1-inch..... | 222 | 6-12 feet, |
| | 4 " | ..... | 912 | 11-12 " |
| | 6 " | ..... | 9478 | 2-12 " |
| | 8 " | ..... | 2,254 | " |
| | 12 " | ..... | 3,047 | 8-12 " |
| Total, 15,915 3-12 ft. | | | | |
| PIPE ABANDONED OR TAKEN UP— | | 3/4-inch..... | 75 | feet. |
| | 1 " | ..... | 324 | " |
| | 4 " | ..... | 2,875 | 4-12 " |
| | 6 " | ..... | 2,753 | 8-12 " |
| 6,028 " | | | | |
| | | Net total, | 9,887 | 3-12 " |
| | | Or 1 mile | 4,607 | 3-12 " |
| Previously reported..... | | 92 miles | 2,787 | 3-12 " |
| Grand total..... | | 94 miles | 2,114 | 6-12 " |

Tees Placed and Removed in 1896.

| Size. | NUMBER. |
|----------------------|---------|
| 4 x 4-inch | 4 |
| 6 x 4-inch | 29 |
| 6 x 6-inch | 10 |
| 8 x 6-inch | 7 |
| 12 x 4-inch | 4 |
| 12 x 6-inch | 6 |
| 30 x 6-inch | 1— 61 |
| Removed. | |
| 4 x 4-inch | 4 |
| 6 x 4-inch | 6— 10 |
| Total increase | 51 |

Crosses Placed and Removed in 1896.

| Size. | NUMBER. |
|----------------------|---------|
| 4 x 4-inch | 1 |
| 6 x 4-inch | 2 |
| 6 x 6-inch | 14 |
| 8 x 6-inch | 5 |
| 8 x 8-inch | 1 |
| 8 x 12-inch | 1 |
| 12 x 6-inch | 3 |
| 12 x 12 inch | 2 — 29 |
| Removed. | |
| 4 x 4-inch | 6 |
| 6 x 4-inch | 6 |
| 6 x 6-inch | 3 |
| 12 x 6-inch | 1— 16 |
| Total increase | 13 |

Connections Made in 1896.

| Size. | NUMBER. | | |
|--|---------|----------|-------------------------|
| $\frac{3}{4}$ -inch | 570 | | |
| 1 " | 7 | | |
| $1\frac{1}{2}$ " | 5 | | |
| 2 " | 3 | | |
| 4 " | 3 | | |
| | 588 | | |
| Removed or abandoned. | | | |
| $\frac{3}{4}$ -inch | 9 | | |
| 1 " | 4 | | |
| $1\frac{1}{2}$ " | 1 | | |
| | 14 | | |
| Total increase | 574 | | 12,645 $\frac{9}{12}$ " |
| Equaling | | 2 miles, | 2,085 $\frac{9}{12}$ " |
| Previously reported to December 31, 1895 | 36 | " | 5,051 $\frac{3}{12}$ " |
| Total to December 31, 1896 | 39 | " | 1,857 " |

N. B.—In addition 157 connections were renewed in streets to be paved, and others which had given out, and 75 which were disconnected from one main and connected with another, etc.

| | | | | | |
|---------------------|-----|-------------------------|-----|-----------------------|-----|
| Second street | 1 | Brought forward | 111 | Brought forward | 130 |
| Fourth " | 2 | Twelfth street | 2 | French street | 2 |
| Sixth " | 16 | Eighteenth " | 1 | State " | 9 |
| Tenth " | 50 | East Avenue | 1 | Myrtle " | 15 |
| Eleventh " | 42 | Holland street. | 15 | Cascade " | 1 |
| Total | 111 | Total | 130 | Total | 157 |

Fire Hydrants Placed in 1896.

| STREET. | STYLE. | LOCATION. | REMARKS. |
|---------------------|------------|--|---|
| Second | Matthews | N.W. cor. Plum | [Matthews taken out 167 f. w. of Plum |
| Fourth | " | S.E. cor. Cherry | [In place of Pittsburg. |
| Sixth | " | N.W. cor. Wayne. | |
| " | " | N.W. cor. Perry | [Matthews taken out 116 f. E. of Wayne |
| " | " | N.W. cor. E. Ave. | [Matthews taken out on E. Ave. & 6th |
| Seventh | " | N.E. cor. Casc. | [Matthews taken out 200 f. W. of Poplar |
| Eighth | " | 240 $\frac{1}{2}$ ft. east of Wayne. | |
| Tenth | " | N.W. cor. Plum. | |
| " | " | N.W. cor. Reed. | [In place of Bay State. |
| " | " | N.E. cor. Parade. | [In place of West Jersey. |
| " | " | N.W. cor. Wallace. | [In place of Pittsburg. |
| " | " | N.W. cor. Ash. | [In place of Bay State. |
| " | " | N.W. cor. Wayne. | [In place of Bay State. |
| " | " | N.W. cor. Perry. | [In place of Bay State. |
| " | " | N.W. cor. East Ave. | [In place of Bay State. |
| Eleventh | " | N.W. cor. Wallace. | [In place of West Jersey |
| Twelfth | 6-in. | N.W. cor. Peach. | |
| " | " | 320 $\frac{1}{2}$ ft. E. of Sassafras. | |
| " | 6-in. | N.W. cor. Sassafras. | |
| " | " | 325 $\frac{1}{2}$ ft. East of Myrtle. | |
| " | 6-in. | N.W. cor. Myrtle | [In place of old Matthews |
| " | " | 324 $\frac{1}{2}$ ft East of Chestnut. | |
| " | 6-in. | N.E. cor. Chestnut. | |
| Fifteenth | " | 216 $\frac{1}{2}$ ft. West of Reed. | |
| Twenty-first | " | N.W. cor. Parade. | [In place of old Pittsburg |
| Twenty-second | " | N.W. cor. Perry. | |
| Twenty-third | Bay State. | 315 ft. West of Ash. | |
| Holland | Matthews. | N.E. cor. 25th. | |
| French | " | S.E. cor. 2d. | [Matthews taken out N.E. cor. 2d. |
| State | 6-in. | S.W. cor. N. Park Row. | |
| " | " | N.W. cor. S. Park Row. | |
| " | " | S.W. cor. 7th. | |
| " | " | S.W. cor. 8th. | |
| " | " | S.W. cor. 9th. | |
| " | " | S.W. cor. 10th. | |
| " | " | S.W. cor. 11th. | |
| " | " | S.W. cor. 12th. | [In place of 4-in. Matthews |
| " | " | N.E. cor. 11th. | |
| Liberty | " | S.E. cor. 7th. | |
| Plum | Bay State. | N.E. cor. 23d. | [In place of Bay State taken out 124 ft. S. |
| Raspberry | Matthews. | N.E. cor. 7th. | [of 22d |

Summary of New Fire Hydrants Placed and Old Ones Removed During 1896.

| | |
|---------------------------------------|----------|
| PLACED— | |
| Matthews—6-inch | 12 |
| Matthews—4-inch | 27 |
| Bay State—4-inch | 2 |
| | <hr/> 41 |
| REMOVED— | |
| Matthews | 7 |
| Pittsburg | 3 |
| Bay State | 6 |
| West Jersey | 2 |
| | <hr/> 18 |
| Net increase | <hr/> 23 |
| Number in use December 31, 1895 | 491 |
| Total in use December 31, 1896 | 514 |

Stop Valves Set in 1896.

| Street. | Style. | Size. | Where Located. | Remarks. |
|------------------|--------|-------|---|---|
| Front..... | Eddy. | 4 | 22' E. of W. line of French, 4.6' S. of N. line Front. | |
| Fifth..... | " | 4 | West line of Myrtle..... | |
| "..... | " | 4 | East " State..... | |
| "..... | " | 4 | West " Chestnut..... | Old one removed. |
| "..... | " | 4 | East " Chestnut..... | Old one removed 18.6'' W. of E. line of Chest. |
| North Park..... | " | 6 | West " State..... | Old one removed 49' W. of E. line of State. |
| Sixth..... | " | 6 | " " Holland..... | Old Ludlow removed. |
| "..... | " | 6 | East " Wallace..... | |
| "..... | " | 6 | West " Ash..... | |
| "..... | " | 6 | " " Wallace..... | |
| "..... | " | 6 | " " Wayne..... | |
| "..... | " | 6 | East " Perry..... | |
| "..... | " | 6 | West " East Ave..... | |
| "..... | " | 6 | " " Perry..... | |
| "..... | " | 6 | East " Wayne..... | |
| South Park..... | " | 6 | West " State..... | |
| Seventh..... | " | 4 | " " Reed..... | |
| Eighth..... | " | 6 | " " Cascade..... | |
| "..... | " | 6 | " " Raspberry... | |
| Ninth..... | " | 4 | East " Chestnut..... | Old Ludlow removed. |
| "..... | " | 4 | West " State..... | |
| Tenth..... | " | 6 | " " Reed..... | |
| "..... | " | 6 | " " Wayne..... | |
| "..... | " | 6 | East " Wayne..... | |
| "..... | " | 6 | 7' E. of E " French..... | Old Ludlow removed. |
| "..... | " | 6 | East " Ash..... | |
| "..... | " | 6 | West " Ash..... | |
| "..... | " | 6 | " " State..... | |
| Eleventh..... | " | 4 | East " Chestnut..... | In place of old one. |
| "..... | " | 6 | West " Wallace..... | |
| "..... | " | 6 | " " Ash..... | |
| "..... | " | 6 | East " Parade..... | In place of 4'' removed. |
| Twelfth..... | " | 12 | West " State..... | |
| "..... | " | 12 | " " Peach..... | 2-6' abandoned on 12th & intersect'n of Peach |
| "..... | " | 12 | East " Sassafras..... | |
| "..... | " | 12 | West " Sassafras..... | In place of 6'' removed. |
| "..... | " | 12 | East " Myrtle..... | In place of 6'' removed. |
| "..... | " | 12 | West " Myrtle..... | |
| "..... | " | 12 | East " Chestnut..... | In place of 6'' removed. |
| Thirteenth..... | " | 4 | West " Peach..... | In place Ludlow removed. |
| Eighteenth..... | " | 6 | " " Plum..... | |
| Twentieth..... | " | 6 | " " Liberty..... | |
| Brown Ave..... | " | 6 | " " Cascade..... | |
| Twenty-second.. | " | 4 | " " German..... | |
| "..... | " | 6 | East " Wayne..... | |
| "..... | " | 6 | " " Cascade..... | |
| Twenty-third.... | " | 6 | West " Penn'a Ave. | |
| "..... | " | 6 | East " Plum..... | |
| Twenty-seventh. | " | 6 | " " Plum..... | |
| Ash..... | " | 6 | East " Ash 22.6'' N. of 3rd. | |

Stop Valves Set in 1896—Continued.

| Street. | Style. | Size. | Where Located. | Remarks. |
|-----------------|--------|-------|-------------------------|----------------------------|
| Wallace..... | Eddy. | 6 | North line of 14th..... | |
| "..... | " | 6 | " " 6th..... | In place of 4" removed. |
| German..... | " | 6 | South " 21st..... | |
| Holland..... | " | 4 | " " 23rd..... | |
| "..... | " | 6 | " " 7th..... | In place of 4" removed. |
| "..... | " | 6 | North " 9th..... | In place of 4" removed. |
| "..... | " | 6 | " " 26th..... | |
| "..... | " | 6 | South " 25th..... | In place of 4" removed. |
| French..... | " | 4 | North " 9th..... | In place Ludlow removed. |
| "..... | " | 4 | " " 2nd..... | 4" Eddy ab'd S. line Front |
| State..... | " | 6 | South " S. Park Row | In place 4" Ludlow remd. |
| "..... | " | 8 | " " N. Park R.... | |
| "..... | " | 8 | North " 7th..... | |
| "..... | " | 8 | South " 7th..... | |
| "..... | " | 8 | " " 8th..... | |
| "..... | " | 8 | North " 9th..... | |
| "..... | " | 8 | South " 9th..... | |
| "..... | " | 8 | North " 10th..... | |
| "..... | " | 8 | South " 10th..... | |
| "..... | " | 8 | North " 11th..... | |
| "..... | " | 8 | South " 11th..... | |
| "..... | " | 6 | North " 11th..... | |
| "..... | " | 6 | South " 10th..... | In place of old 6" rem'vd. |
| Peach..... | " | 4 | North " 2nd..... | |
| "..... | " | 12 | North " 12th..... | |
| "..... | " | 6 | South " 12th..... | In place of 6" aband'd |
| "..... | " | 6 | North " N. Park R.... | 42' N. of S. line of 12th |
| Sassafras..... | " | 4 | South " 12th..... | In place Ludlow removed |
| Myrtle..... | " | 4 | " " 4th..... | In place Ludlow removed |
| Walnut..... | " | 4 | " " 6th..... | In place Ludlow removed |
| Liberty..... | " | 6 | " " 7th..... | |
| "..... | " | 6 | North " 19th..... | |
| Cascade..... | " | 6 | " " Brown Ave. | |
| Penn'a Ave..... | " | 6 | South " 23rd..... | |
| Queen..... | " | 4 | East " East Ave.... | |

Summary of Stop Valves Set, Removed and Abandoned
During 1896.

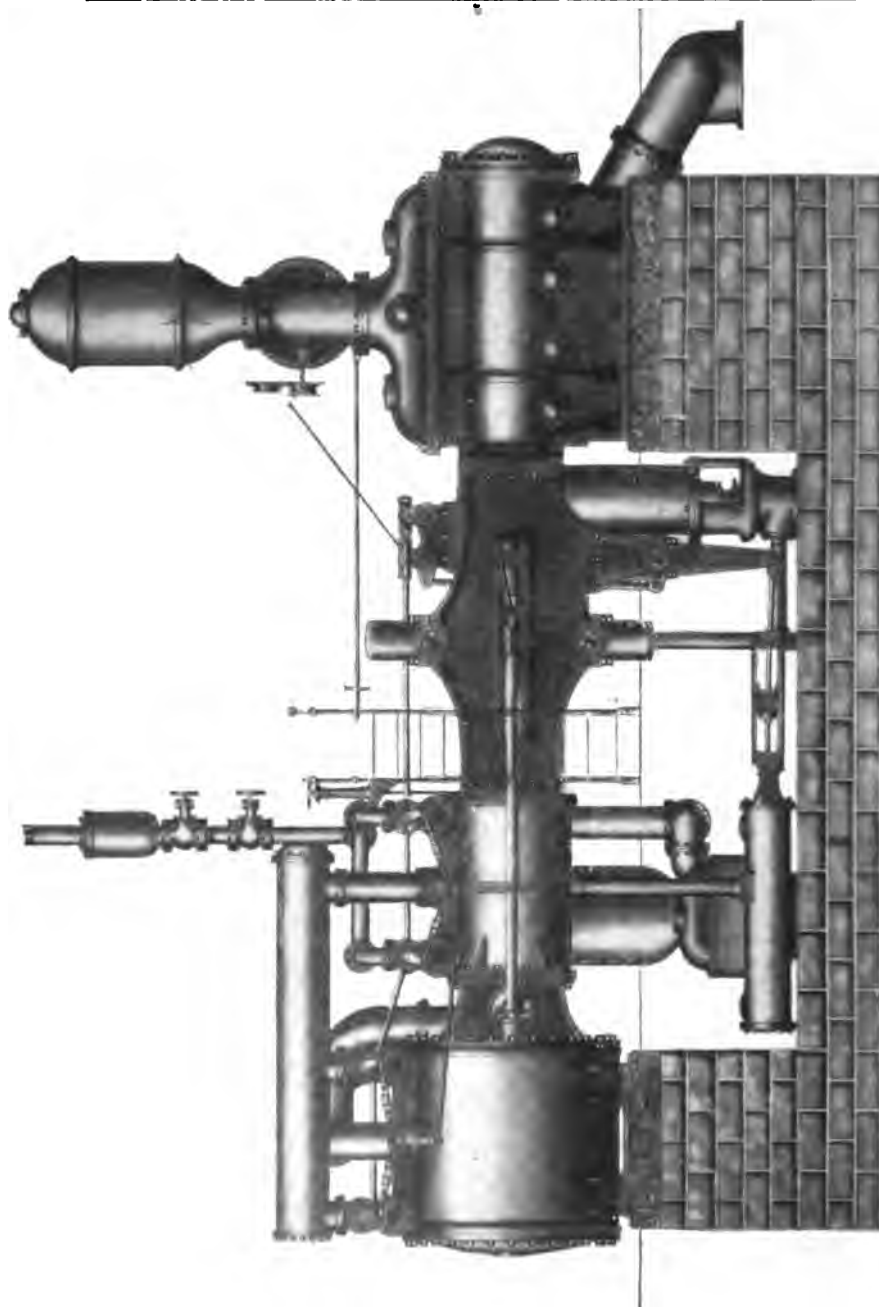
| | | | |
|---------------------|---------|----|----|
| SET— | | | |
| Eddy..... | 4-inch | 19 | |
| "..... | 6-inch | 48 | |
| "..... | 8-inch | 10 | |
| "..... | 12-inch | 8 | |
| Total..... | | | 85 |
| REMOVED— | | | |
| Eddy..... | 4-inch | 8 | |
| "..... | 6-inch | 5 | |
| Ludlow..... | 4-inch | 7 | |
| "..... | 6-inch | 2 | |
| ABANDONED— | | | |
| Eddy..... | 4-inch | 1 | |
| "..... | 6-inch | 3 | |
| Total..... | | | 26 |
| Total increase..... | | | 59 |

**Amount of Coal Consumed in Pumping, Gallons of Water Pumped, Average Height Pumped,
Cost per Million Gallons, Etc., from First Year Works were Operated to Dec. 31, 1896.**

| YEAR. | Tons Coal Consumed. | Price Coal per ton from May 1st to each year. | Cost Coal from Jan. 1st to Dec. 31st. | Grades of Bituminous Coal. | Gallons of Water Pumped. | Increase or Decrease. | Number of places supplied. | No. Fire Hydrants. | Average height of Water in Reservoir above surface of Bay. | Cost Coal per million gallons raised in Reservoir. | Gallons raised by one pound of Coal. |
|-----------|---------------------|---|---------------------------------------|----------------------------|--------------------------|-----------------------|----------------------------|--------------------|--|--|--------------------------------------|
| 1868..... | 591 1 | \$ 5 05 | \$ 309 61 | Lump. | | | | | | | |
| 1869..... | 544 4 | 5 05 | 4,818 48 | " | 246,648,960 | | 1,218 | 97 | 232 0 | \$18 76 | 98 5 |
| 1870..... | 1,064 5 | 5 05 | 5,159 10 | " | 279,368,495 | 32,719 535 i | 1,727 | 99 | 232 0 | 16 52 | 150 9 |
| 1871..... | 1,422 7 | 5 05 | 7,117 00 | " | 395,076,000 | 115,707,505 i | 2,140 | 103 | 232 0 | 21 90 | 114 8 |
| 1872..... | 1,308 5 | 5 05 | 6,528 50 | " | 384,062,415 | 11,013,585 d | 2,475 | 107 | 232 0 | 17 31 | 126 4 |
| 1873..... | 1,672 5 | 5 05 | 8,412 65 | " | 444,817,395 | 60,754,980 i | 2,700 | 110 | 232 0 | 16 30 | 145 5 |
| 1874..... | 1,759 0 | 4 85 | 7,709 54 | " | 531,005,475 | 86,188,080 i | 2,763 | 112 | 232 0 | 13 30 | 159 3 |
| 1875..... | 1,836 4 | 4 85 | 8,657 61 | " | 670,726,650 | 139,721,175 i | 2,854 | 114 | 232 0 | 12 75 | 135 7 |
| 1876..... | 1,105 1 | 4 00 | 8,925 22 | " | 660,981,810 | 9,744,840 d | 2,915 | 115 | 232 0 | 11 64 | 136 4 |
| 1877..... | 2,456 6 | 3 70 | 8,509 33 | " | 682,302,315 | 21,410,505 i | 3,011 | 121 | 232 0 | 9 19 | 153 6 |
| 1878..... | 2,463 3 | 3 35 | 7,945 37 | " | 807,800,400 | 125,408,085 i | 3,568 | 126 | 232 0 | 8 99 | 126 0 |
| 1879..... | 2,628 1 | 3 09 | 7,428 92 | " | 775,805,250 | 31,095,150 d | 4,110 | 161 | 232 0 | 6 68 | 142 2 |
| 1880..... | 3,076 1 | 1 99 | 6,978 41 | Slack. | 975,740,934 | 219,835,684 i | 4,687 | 171 | 234 0 | 6 45 | 139 7 |
| 1881..... | 3,430 3 | 1 90 | 6,517 58 | " | 829,759,260 | 145,881,674 d | 5,077 | 197 | 234 7 | 4 66 | 170 0 |
| 1882..... | 2,968 2 | 1 75 | 5,355 93 | " | 815,939 685 | 13,819,575 d | 5,395 | 248 | 234 3 | 4 99 | 152 4 |
| 1883..... | 2,398 2 | 1 55 | 3,908 59 | " | 917,781,350 | 101,841,665 i | 5,958 | 270 | 232 9 | 4 40 | 159 7 |
| 1884..... | 3,010 8 | 1 45 | 4,592 61 | " | 1,036,496,605 | 118,715,315 i | 6,140 | 280 | 233 3 | 3 86 | 165 8 |
| 1885..... | 3,243 8 | 1 30 | 4,575 79 | " | 1,117,389,075 | 86,892,410 i | 6,368 | 318 | 234 1 | 2 95 | 216 0 |
| 1886..... | 3,369 0 | 1 25 | 4,318 64 | " | 1,218,213,688 | 100,824,613 i | 6,000 | 333 | 234 6 | 1 89 | 292 1 |
| 1887..... | 2,820 4 | 1 15 | 3,589 31 | " | 1,341,708,002 | 123,494,314 i | 7,086 | 346 | 235 2 | 1 80 | 301 5 |
| 1888..... | 2,392 3 | 1 09 | 2,545 46 | " | 1,475,358,220 | 133,650,218 i | 7,728 | 372 | 236 9 | 1 81 | 322 4 |
| 1889..... | 2,446 0 | 1 08 | 2,661 12 | " | 1,659,625,551 | 184,267,331 i | 8,255 | 393 | 237 3 | 2 18 | 291 42 |
| 1890..... | 2,583 6 | 1 20 | 3 052 89 | " | 1,807 038,580 | 147,413,029 i | 8,998 | 415 | 237 4 | 2 35 | 279 43 |
| 1891..... | 3,120 7 | 1 29 | 3,941 53 | " | 2 047 993,505 | 240,954,925 i | 9,687 | 444 | 236 5 | 2 66 | 248 6 |
| 1892..... | 3,658 0 | 1 32 1/2 | 4,807 11 | " | 2 333,638,610 | 285,645,105 i | 10,680 | 479 | 236 6 | 2 43 | 306 8 |
| 1893..... | 4,693 5 | 1 32 1/2 | 6,218 95 | " | 1,816,596,518 | 517,042,092 d | 10,846 | 489 | 237 2 | 2 21 | 278 62 |
| 1894..... | 2,960 0 | ..... | 4,423 59 | " | 1,975,396,305 | 158,797,787 i | ..... | 514 | 237 2 | 1 706 | 328 17 |
| 1895..... | 3,541 5 | 1 22 | 4,377 16 | " | 2,005,157,728 | 30,361,423 i | 10,846 | ..... | 237 6 | ..... | ..... |
| 1896..... | 3,056 0 | 1 13 | 3 603 28 | " | ..... | ..... | ..... | ..... | 237 6 | ..... | ..... |

Statement of Connections made to December 31, 1896.

| WARD. | IN STREETS THAT WERE TO BE PAVED AND HAVE NOT BEEN USED. | | | | | | | | | | IN USE. | | | | | | | | | | TOTAL. | | | | | | | | | |
|--------------|--|-------|-------|-------|-------|-------|-------|--------|-------|-----|-----------------|----|----|-------|-------|--------|-------|-------|-------|-----|-----------------|-------|----|--------|-------|-------|-------|--------|----|--|
| | SIZE IN INCHES. | | | | | | | | | | SIZE IN INCHES. | | | | | | | | | | SIZE IN INCHES. | | | | | | | | | |
| | ¾ | 1 | 1½ | 2 | 3 | 4 | 6 | TOTAL. | ¾ | 1 | 1½ | 2 | 3 | 4 | 6 | TOTAL. | ¾ | 1 | 1½ | 2 | 3 | 4 | 6 | TOTAL. | | | | | | |
| First..... | 104 | 1 | ..... | ..... | ..... | ..... | ..... | 105 | 1,229 | 19 | ..... | 10 | 11 | ..... | ..... | 14 | ..... | 20 | ..... | 10 | 11 | ..... | 14 | ..... | 1,388 | | | | | |
| Second..... | 216 | 1 | 1 | ..... | ..... | ..... | ..... | 219 | 1,959 | 14 | ..... | 27 | 15 | ..... | ..... | 40 | 6 | 2,061 | 2,175 | 15 | ..... | 28 | 15 | ..... | 41 | 6 | 2,280 | | | |
| Third..... | 404 | 1 | ..... | ..... | ..... | ..... | ..... | 405 | 1,759 | 31 | ..... | 21 | 21 | 1 | ..... | 24 | 4 | 1,861 | 2,103 | 32 | ..... | 21 | 21 | 1 | ..... | 24 | 4 | 2,266 | | |
| Fourth..... | 210 | 1 | ..... | ..... | ..... | ..... | ..... | 211 | 1,448 | 27 | 3 | 16 | 24 | ..... | ..... | 13 | ..... | 1,531 | 1,658 | 28 | 3 | 16 | 24 | ..... | 13 | ..... | 1,742 | | | |
| Fifth..... | 57 | ..... | ..... | ..... | ..... | ..... | ..... | 57 | 1,069 | 10 | 1 | 9 | 7 | ..... | ..... | 4 | ..... | 1,040 | 1,066 | 10 | 1 | 9 | 7 | ..... | 4 | ..... | 1,097 | | | |
| Sixth..... | 73 | 2 | ..... | ..... | ..... | ..... | ..... | 79 | 1,177 | 16 | ..... | 9 | 6 | ..... | ..... | 3 | ..... | 1,212 | 1,250 | 18 | ..... | 9 | 6 | ..... | 1 | 7 | ..... | 1,291 | | |
| Seventh..... | | | | | | | | | 41 | 4 | 1 | 6 | 3 | | | 3 | 1 | 60 | 41 | 4 | 1 | 6 | 3 | | 1 | 3 | | 1 | 60 | |
| Total..... | 1,064 | 6 | 1 | 5 | ..... | ..... | ..... | 1,076 | 8,622 | 121 | 5 | 48 | 87 | 1 | 2 | 101 | 11 | 9,048 | 9,686 | 127 | 5 | 99 | 87 | 1 | 2 | 106 | 11 | 10,124 | | |



WORTHINGTON HORIZONTAL COMPOUND HIGH DUTY PUMP.

FILTRATION.

REPORT OF COMMISSIONER CLARK OLDS.

To T. W. Shacklett, President:

In pursuance of a request from you, I present a report of my observations upon the filtration of public water supplies, made during a recent visit to Great Britain:

There is probably no one question which so greatly interests the community as its water supply, and there is no other question of such vital importance which receives so little attention from the community in general.

It is said that 80 per cent. of the human body is water, yet very few people stop to consider whether or not the water they drink is fit for consumption.

Whether the water we drink is wholesome or unwholesome depends largely upon the source of supply and the amount of pollution.

It is not the quantity of organic matter in water that renders it unwholesome and likely to cause disease; but it is the character of the organic matter it contains that renders its use dangerous.

Water, in which the organic matter is so scantily represented as to almost defy chemical detection, may be of the most poisonous character; yet when water contains a large amount of organic matter it may contain other organisms introduced through the same channels and should be condemned as unfit for consumption because of its power of disseminating infectious diseases.

These organisms found in water are microscopic and are known as microbes or bacteria, the most dangerous of which are typhoid bacilli and cholera spirilla, believed to be the only two infectious diseases which can be communicated from person to person by the use of drinking water.

Typhoid fever is an exclusively human affection and is generally communicated by means of the bacilli in the bowel discharges of persons suffering from it, consequently the great danger to a community is the possibility of its water supply being polluted with sewage containing the germs of infectious diseases.

The English filter-bed system is the best known method of purifying water on a large scale. Its use has become almost universal throughout Europe and is most efficacious in removing bacteria and other impurities from water.

All of the water used in London is filtered by this process; daily analyses show that from 98 to 99½ per cent. of all bacteria is removed from the water, which at its source is polluted to such an extent as to be totally unfit for domestic use. After efficient filtration the water is delivered in most excellent chemical and bacterial condition, excelling as regards organic purity the majority of deep well waters.

The construction of a filter-bed is quite simple, varying in detail according to the ideas of the Engineer.

It is a shallow reservoir of about one acre in area, made tight with concrete or other material, having the bottom slightly inclined to a central pipe or effluent drain. The bottom is first covered with tile leading to this central pipe which is of larger diameter; the whole is then filled to a depth of about six feet with sand and gravel, commencing with a layer of very coarse gravel on the bottom and finishing with a top layer of fine sand about two feet in thickness.

The water is admitted on top of this bed filling it to a depth of three or four feet above the sand.

The rate of filtration is regulated by the valves in the effluent drain.

The best results are said to be obtained by filtering about one and a half million gallons per day, although in some plants the daily effluent amounts to twice that quantity.

The number of beds must be regulated by the consumption of water, allowing one to be out of use all the time for cleaning.

The filter-bed acts mechanically because the fine sand strains all the substances suspended in the water. After a day's use, there is found upon the surface of the sand a gelatinous layer of material, which acts as a coagulent and entangles the major part of the bacteria in the water and retains them at or near the surface of the sand, producing bacteriological purification.

In addition there is a chemical process constantly going on. The bacteria which escape entanglement, attach themselves to the grains of sand and come in contact with the air in the filter-bed

which produces nitrification, and all the organic matter in the water during its passage through the filter-bed is actually burned up, and with it the disease germs.

The food for bacteria is thereby removed and the water thereafter is unfavorable for their development.

When the new filter-bed is put in operation it is filled and the water allowed to stand twenty-four hours before the effluent drain is opened, the settling produces the thin gelatinous layer on top of the sand which marks the efficiency of the filter-bed.

The longer the filter is in use the more efficient it becomes, until the surface layer becomes so thick that the water will not pass through it freely and it is then said to be clogged and must be cleaned.

In all large plants the cleaning process is going on in some of the beds all the time.

When a bed becomes clogged the water is permitted to settle away below the surface of the sand, gangs of men go out on the bed and with shovels skim off about one-half inch of the surface sand and wheel it ashore where it is washed and placed in a pile ready for use again. The skimming process goes on from time to time as the conditions require, till the surface layer of sand is reduced to about one foot in thickness, then all the sand which has been removed and washed is replaced over the entire surface of the bed, giving the top layer of sand its normal thickness of about two feet. Generally the sand is replaced about once a year, the body of the bed (barring accidents) lasts many years without being disturbed.

In addition to the filter-bed there is another factor which enters largely into the purification of water. It is the storage or subsidence reservoir, the importance of which is now universally acknowledged.

In all water in motion, there is a certain amount of matter in suspension, the specific gravity of which is slightly greater than that of water. When placed in large subsidence reservoirs for several days, sedimentation takes place and the sediment carries with it to the bottom a very large proportion of the bacteria in the water. Thus by sedimentation alone, water which is slightly contaminated, may be very much improved, and by proper storage rendered fit for domestic use.

Large storage reservoirs should always be used in connection with public water supplies and are a great benefit to the process of filtration, the purer the water is when introduced upon the bed the longer it will efficiently perform the work of filtration without cleaning, and consequently the less expensive it is to maintain.

The length of time which disease germs survive in water is somewhat problematical, but the best authorities seem to think that typhoid fever bacilli lose much if not all their virulence in about fifteen days, although under certain conditions they have been known to survive a much longer period of time.

Having called to your attention the danger to the community of a polluted water supply and how by proper precautions, these dangers may be eliminated or reduced to a minimum, it may not be improper to make some suggestions in regard to the improvement of our supply. We take our water from the Harbor into which the entire sewage of the city is deposited, the only factors of safety to the community are the extreme length of the intake pipe and the great dilution of the sewage; gradually the entire Harbor is becoming saturated with sewage.

Mill Creek, through whose channel the largest portion of the sewage of the city passes, might be separated from the balance of the Harbor by a line of crib work diverting its course across the end of the sand beach into the open Lake.

This work could be accomplished at comparatively small expense, the benefit to the water would be inestimable. A small portion of the sewage might be carried by the currents back into the Harbor through the channel, but it would come back in a very much diluted state and would be again diluted by the waters of the Harbor, thereby decreasing the danger to a minimum.

A large sedimentation reservoir could be constructed at the pumping station, connected with the intake pipe, in which the water would rise to the surface of the lake and after sedimentation pass into the well of the pumping Engine, or a large reservoir could be constructed on the high land south of the present reservoir, in either of which sedimentation would take place.

A reservoir of this character should contain at least one hundred million gallons, which at the present average consumption, would contain about twelve and a half days supply of water.

The present reservoir contains about four days supply, only the surplus pumpage passes into it, all the water in the mains is in circulation and there is no opportunity for sedimentation from the time the water enters the intake until it is taken out by the consumer.

The water is now, of moderately good chemical and bacterial quality, after ten or twelve days storage it would be greatly improved.

The construction of a large sedimentation reservoir either at the pumping station or south of the city, would be in my opinion, a step in the right direction.

If the present intake pipe is ever extended into the lake or if a system of filtration is adopted, in either case the construction of a sedimentation or storage reservoir is a necessity, and under existing conditions it would do much to improve the quality of the present supply.

It is not the intention of the writer to discuss the merits of the different methods of filtration or to recommend one more than another ; great progress has been made in the method of mechanical filtration and many American cities have installed plants of this character. Statistics show, that in all cities where efficient filtration of the water supply has been adopted, the death rate has decreased sufficiently to demonstrate the necessity of the filtration of all public water supplies.

All of which is respectfully submitted.

December 31, 1896.

CLARK OLDS.

OFFICERS AND SALARIES PAID THEM IN 1896.

| | |
|--|-----------|
| <i>Commissioners</i> —Wm. Hardwick..... | \$ 900 00 |
| T. W. Shacklett..... | 900 00 |
| Clark Olds..... | 900 00 |
| <i>Secretary and Treasurer</i> —Wm. Himrod..... | 2,000 00 |
| <i>Assistant Secretary</i> —Geo. C. Gensheimer..... | 1,440 00 |
| <i>Book-Keepers</i> —John Kolb..... | 1,080 00 |
| R. H. Bear..... | 960 00 |
| W. W. Todd..... | 840 00 |
| <i>Clerk</i> —M. L. Whitley | 660 00 |
| <i>Inspectors</i> —John D. Spafford..... | 815 00 |
| Wm. McCleery..... | 780 00 |
| P. F. Weinheimer..... | 780 00 |
| <i>Meter Taker</i> —Perry E. Thurber..... | 780 00 |
| <i>Superintendent of Street Work</i> —R. T. Walker..... | 1,320 00 |
| <i>Foreman of Street Work</i> —Fred Simons, per day..... | 2 75 |
| Fred D. Gross, per day..... | 2 75 |
| <i>Chief Engineer</i> —F. A. Roth..... | 1,320 00 |
| <i>Assistant Engineers</i> —Geo. R. Miller..... | 960 00 |
| John Kelly..... | 960 00 |
| <i>Firemen</i> —Joseph Burns..... | 660 00 |
| Jacob Mullen..... | 660 00 |
| Henry F. Voltz..... | 660 00 |
| <i>Watchman at Pumping Station</i> —Michael Flynn..... | 660 00 |
| <i>Janitor at Pumping Station</i> —Nathan Block..... | 600 00 |
| <i>Keeper of Reservoir</i> —Samuel Phister..... | 480 00 |
| <i>Janitress</i> —Mrs. Matilda Sager..... | 168 00 |

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THIRTY-FIRST

ANNUAL REPORT

OF THE

COMMISSIONERS

OF

WATER WORKS,

IN THE

CITY OF ERIE,

TO THE

COUNCILS,

FOR THE

YEAR ENDING DECEMBER 31, 1897.

ERIE, PA.
HARRIS PERRY & CO. PRINTERS.
1898.



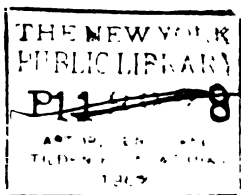
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PRINTED BY
J. H. HART, 101 N. 10th St.
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ERIE, PA.:
HERALD PRINT. & PUB. CO.,
1898.



PUMPING STATION AS SEEN FROM THE BAY.

Commissioners of Water Works.

In the City of Erie,

Erie, Penn'a.

WILLIAM HARDWICK,

T. W. SHACKLETT,

CLARK OLDS.

Officers.

T. W. SHACKLETT,

President.

WILLIAM HIMROD,

Secretary and Treasurer.

GEO. C. GENSHEIMER,

Assistant Secretary.

F. A. ROTH,

Chief Engineer at Pumping Station.

R. T. WALKER,

Superintendent of Street Work.

OFFICE—City Hall.

OFFICE HOURS—From 8:00 A. M. to 5:00 P. M.; on Mondays to 9:00 P. M.

REGULAR MEETINGS OF THE COMMISSIONERS—Every Saturday at 3:00 P. M., and the first of each month at 11:00 A. M., except when it occurs on Sunday, then they meet the following day, and every Monday at 7:30 P. M.



*G. W. F. SHERWIN,
Commissioner,
1879-1884.*

ANNUAL REPORT.

To the Councils of the City of Erie, Pa. :

GENTLEMEN :—

The Commissioners of Water Works, in the City of Erie, here-with present the thirty-first annual report of this department for the year 1897 :

RECEIPTS :

| | | |
|---|--------|------------|
| Balance in City Treasury Dec. 31, 1896..... | \$ | 635.29 |
| From Water Rents : | | |
| Assessments..... | \$ | 98,101.04 |
| Meters..... | | 24,973.67 |
| Building Permits..... | | 838.19 |
| Special Permits..... | 193.71 | 124,106.61 |
| From other sources... | | 773.06 |
| Total..... | \$ | 125,514.96 |

DISBURSEMENTS :

| | | |
|--|----|------------|
| Construction..... | \$ | 62,952.25 |
| Maintenance..... | | 17,674.34 |
| Operating..... | | 20,859.86 |
| Accounting..... | | 8,350.43 |
| Legal | | 235.00 |
| Sundries..... | | 5.90 |
| Sinking Fund | | 15,000.00 |
| Balance in City Treasury Dec. 31, 1897. | | 437.18 |
| Total..... | \$ | 125,514.96 |

The receipts for water rents in the year 1896 amounted to \$121,442.94, and it will be seen that the revenues from that source for 1897 show an increase of \$2,663.67.

The demand for new connections has been somewhat less than usual, and shows a net gain of only 373, as compared with 574 for the previous twelve months.

The year has been marked by great activity, and such improvements, extensions and betterments as, in our judgment, were necessary for the benefit, comfort and convenience of our citizens, have been made as time and means permitted; and we have endeavored to plan everything with reference to the future, so that there will be but little trouble in adding to the system as the needs of the city may hereafter require.

The most important work accomplished has been the construction of a boiler house; the erection of a steel chimney and the installation of four batteries of improved high-pressure boilers.

The building is 100 feet long by 70 feet wide, and, besides the room necessary for the boilers, affords storage capacity for about eight hundred tons of coal.

The urgent need of such a storage place was fully demonstrated during the period of the late strikes in the mining districts, when we were compelled from time to time to buy, outside of our contract, high-priced coal in open market, in order to run the pumps, and often had great difficulty in procuring the requisite quantity.

Anxiety on this score is thus happily relieved, as we are now able to carry a supply of fuel sufficient for at least three months.

The contract for the building was awarded Messrs. Constable Brothers on their bid of \$12,648.00 and operations were begun in August last.

The Erie City Iron Works furnished the eight Horizontal Tubular Boilers, which are 18 feet long by 6 feet in diameter, of 150 Horse Power each, and are designed to carry a working pressure of 150 pounds to the square inch.

Improved results and a much more economical consumption of fuel are confidently assured from their use, as has already been demonstrated in the preliminary tests.

The contract price for these boilers was \$7,465.33.

Ample steam facilities are thus provided for years to come, and none of the boilers need now be used continuously, or forced, as we were compelled to do with the old ones.

After receiving bids for a brick chimney 175 feet high—which averaged about \$11,000—the Commissioners, who from the first inclined towards a steel chimney, decided to ask for proposals for a stack of this material, with the result that the Meehan Boiler and Construction Co., of Lowellville, Ohio, secured the work for the sum of \$4,000.00.

The chimney was erected without accident or delay, and is satisfactory in every detail.

It is a self-sustaining graceful structure 175 feet high with a clear inside diameter of 75 inches and is located on the north side of the new boiler house near its east end. The steel sheets of which it is made vary in thickness every 35 feet from three-quarters of an inch at the bottom to one-quarter of an inch at the top.

It is lined with fire-brick on the inside to a height of 80 feet.

Smoke stacks of this kind are coming into general use both in this country and abroad and are rapidly supplanting the old style brick chimneys.

The Jarecki Manufacturing Co. furnished the steam fittings, valves and principal connections.

We have also accomplished the laying of a 12-inch main on East Avenue from Twenty-first street to Twelfth street, and from thence westwardly on Twelfth street to Wayne street.

It was our intention, as stated in our last annual report, to do this work in the year 1898, as we have long recognized the needs of the extensive manufacturers in the south-eastern part of the city for a better water supply ; but upon the urgent request of the Erie City Iron Works, (whose fire insurance, then about to be renewed, would have been considerably affected) we began the work in August last, upon condition that payment of the boilers to be furnished by them would be deferred until the latter part of the coming January.

This important work was completed before the freezing weather set in.

In order to secure a better supply of water in the northern portions of the city, which is furnished mostly through four-inch mains, and at the same time to improve the general circulation in the eastern section, the Commissioners determined to lay a

20-inch main in Third Street, from Chestnut eastwardly, and have already put down the same as far as Sassafras Street.

It is the intention, as soon as spring opens, to continue this work as far as Parade street, (if possible) and from thence proceed up that thoroughfare with a 12-inch main to connect with a pipe of that size already in Seventh Street, and from thence continue out Seventh to Wayne, to which point, as has been stated before, a 12-inch pipe has already been laid.

A new compound-curve roadway, from the foot of Myrtle Street, has been constructed, by means of which the pumping station is much more ready of access, and affords a safe and easy carriage-way to the Works and Park for visitors—the number of which is constantly on the increase and attests the popularity of our improved and attractive surroundings.

Among the extraordinary expenditures during the past year is the item for cleaning and repairing the Reservoir, work upon which was begun in June and continued until it was completely and thoroughly overhauled and cemented with the best material that could be procured.

Regular and systematic monthly analyses of the water have been made throughout the year by Dr. Wm. P. Mason, Professor of Chemistry in the Rensselaer Polytechnic Institute, Troy, N. Y., and will be continued during the coming year.

The extension of the Intake Pipe to Big Bend, a distance of 8,307 feet, has undoubtedly been of incalculable benefit to the community, and that it has had a salutary effect upon its health is evidenced by the report of the Health Officer, wherein the number of deaths from Typhoid Fever (the disease most communicable by water) is given as follows:

| | |
|------------|------------|
| 1895..... | 20 deaths. |
| 1896..... | 19 " |
| 1897... .. | 12 " |

Notwithstanding this improved showing, we are still firmly of the opinion that at no distant day some effective measure or measures must be adopted to secure the bay from increasing and further pollution, as no community can reasonably expect to approach anything like the ideal in healthfulness, and at the same time deposit its sewerage and filth into the source from whence is taken the supply of drinking water.

If the intercepting sewer—at one time adopted and appropriated for by your predecessors—is not considered feasible, then a filtration plant becomes a necessity, as the only other plan for pure water—namely, the further extension of the intake to the open lake—is fraught with so many difficulties, such as the maintenance of the intake crib, etc., to say nothing of the great expense attendant upon an undertaking of such magnitude, that we have practically abandoned that line of procedure.

It is our judgment that all that portion of the intercepting sewer designed to take care of the waters of Mill Creek (into which is discharged about four-fifths of the entire sewage of the city) should be constructed as speedily as possible, in order to divert from the bay this great volume of polluted water which is a constant menace to the health of our community.

The Commissioners have endeavored, impartially, to carry out all the rules and regulations of this department as approved by your honorable bodies, and particularly with reference to the collection of water rents, and for the past six years have insisted upon prompt payment as required by the rules, or the penalty, as prescribed, has been enforced.

By a firm and unvarying insistence upon this point, upon the ground that it was unfair for those who did pay promptly to let others settle their bills when it pleased them, we have now no difficulty in collecting, within the specified time, the quarterly assessment of more than \$30,000; and there are very few instances where the extreme measure of shutting off the water for non-payment of rent (always a disagreeable duty for the Commissioners) has to be resorted to.

Notwithstanding the great need of funds to carry on the work of improvement and betterment of the plant, we have fulfilled our promise to you to pay the sum of \$15,000 to the Sinking Fund Commissioners on account of interest on the Water Works debt, and as further agreed, we will arrange to turn in the sum of \$25,000 in the year 1898.

We have made mention in previous communications to your honorable bodies of the needs of South Erie for a more adequate water supply.

This is in recognition of the claims made by residents of that portion of the city that they do not get the service or pressure

afforded citizens down town, while they are required to pay the same rates therefor.

The plan contemplated for their relief embraces the erection of another pump having a daily capacity of 8,000,000 gallons but capable of economically pumping 2,000,000 gallons—the estimated quantity required for South Erie.

This Engine is to be installed in the Gaskill pump room, in the space originally designed by our predecessors for such an addition when the building was constructed.

The two pumps in that room, having a combined capacity of 13,000,000 gallons, daily, will be so arranged as to supply, if need be, the present general system, as a relay to the Worthington 12,000,000-gallon engine ; or, the new pump may be used in the general system when the consumption of water does not exceed 8,000,000 gallons per day ; or, either one of them may be worked in the new and separate system for South Erie.

As a part of this plan, it is designed to lay a 24-inch main from the Pumping Station, via Walnut street to Nineteenth street ; thence (with a connection to the 30-inch main at Chestnut street) the line will turn westwardly to Cherry, and south on that street to Twenty-sixth street ; thence eastwardly to the Reservoir grounds, where a stand pipe 100 feet high will be erected, in which the water will be maintained at an altitude of 60 feet above the level of the Reservoir, and so connected that the overflow can go into that basin.

Thus, by a system of stop or check valves, the entire portion of the city south of Nineteenth street will be made a separate district and supplied as above described, and as satisfactory service guaranteed as in any other part of our municipality.

The first step toward this much needed improvement will be the purchase of a Pump as hereinbefore described, specifications for which are already in preparation, and it is expected to have it in operation by next October.

The work of laying the main will be undertaken at a later date.

It will be observed that we have not reckoned the old Cornish Bull Pumps in our calculations, as one of them is totally disabled, and the other, while in fair condition, is not an economical engine to run, owing to the great amount of coal consumed for every

thousand gallons of water pumped, which is more than double that required by the modern, up-to-date pumping engine.

We, however, have steam connections made to the old pump for use in case of an emergency.

It is our intention to dismantle the old boilers and dispose of them to the best advantage ; to enlarge the opening in the building so that coal cars of the largest size, and even a locomotive if necessary, may pass through to the coal storage bins without damage.

We will then convert the old boiler house into a work-shop and place of storage for supplies, meters, etc., thus saving the expense, as now, of renting quarters elsewhere.

All of which is respectfully submitted.

T. W. SHACKLETT,
WILLIAM HARDWICK,
CLARK OLDS,
Commissioners.





BENJAMIN WHITMAN,
Commissioner,
1881-1886.

Extract from Report of J. W. Wright, M. D., Health Officer of the City of Erie, for the Year 1897.

The use of Mill Creek and other streams as sewers and the discharge of sewage through them into the bay is most deplorable and immediate steps should be taken toward the building of an intercepting sewer and the establishment of a sewage disposal plant where all the sewage of the city could be received and go through a complete process of purification. The cities of Reading, Pa., and Lawrence, Mass., are notable examples of what can be accomplished in the way of obtaining pure water from sewage, bacteriological examination of water obtained after passing through the filter beds showing it to be practically free from all forms of bacteria and perfectly safe for drinking purposes.

The use of Mill Creek as an open sewer cannot be too strongly condemned. Nevertheless, if its use for such purposes is continued, the bottom of the stream should be paved with brick. This would be a step toward its complete enclosure, an event which must surely follow its future use as a public sewer. Paving the bottom of the stream with brick would give a smooth surface for the water to run over instead of a rough, uneven bottom, full of depressions in which filth accumulates to the detriment of the neighboring property and to the health of the people living in its vicinity.

Death rate of the City of Erie for the 22 years from 1876 to 1897, inclusive, with a tabulated statement of deaths from the principal contagious and infectious diseases during that period:

| Year. | Tuber- culosis. | Typhoid | Diph- theria. | Scarla- tina. | Small- pox. | Total Number Deaths. | Rate per 1,000. |
|-----------|--------------------|---------|------------------|------------------|----------------|----------------------------|--------------------|
| 1876..... | 44 | 14 | 6 | 2 | ..... | 355 | 14.27 |
| 1877..... | 52 | 10 | 4 | 2 | ..... | 346 | 13.90 |
| 1878..... | 60 | 6 | 9 | 10 | ..... | 375 | 14.57 |
| 1879..... | 49 | 8 | 10 | 8 | ..... | 405 | 15.11 |
| 1880..... | 55 | 6 | 46 | 11 | ..... | 490 | 18.02 |
| 1881..... | 60 | 17 | 56 | 2 | ..... | 549 | 18.97 |
| 1882..... | 52 | 21 | 53 | ..... | 13 | 499 | 16.63 |
| 1883..... | 41 | 8 | 13 | 10 | ..... | 440 | 14.10 |
| 1884..... | 58 | 10 | 36 | 12 | ..... | 496 | 15.33 |
| 1885..... | 65 | 15 | 10 | 3 | ..... | 459 | 13.70 |
| 1886..... | 53 | 12 | 6 | 48 | ..... | 569 | 16.42 |
| 1887..... | 59 | 10 | 11 | 24 | ..... | 616 | 17.18 |
| 1888..... | 58 | 9 | 12 | 3 | ..... | 584 | 15.63 |
| 1889..... | 57 | 16 | 14 | 3 | ..... | 599 | 15.41 |
| 1890..... | 91 | 26 | 13 | 10 | ..... | 732 | 18.01 |
| 1891..... | 66 | 24 | 25 | 14 | ..... | 769 | 18.31 |
| 1892..... | 83 | 24 | 224 | 2 | ..... | 903 | 20.00 |
| 1893..... | 51 | 15 | 95 | 7 | ..... | 815 | 17.10 |
| 1894..... | 50 | 15 | 58 | 60 | ..... | 834 | 16.70 |
| 1895..... | 59 | 20 | 23 | 12 | ..... | 821 | 15.88 |
| 1896..... | 64 | 19 | 10 | 2 | ..... | 609 | 10.87 |
| 1897..... | 68 | 12 | 4 | 2 | ..... | 624 | 10.94 |

***Commissioners of Water Works, in the City of Erie, from
Organization to December, 31, 1897.***

The Commissioners of Water Works, in the City of Erie, are appointed by the Court of Common Pleas of Erie County, Penna., for a term of three years, one member being named annually, in May.

| | | | |
|------|-------------------|-------------------|--------------------|
| 1867 | *W. L. Scott, | Henry Rawle, | Wm. W. Reed, |
| 1868 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1869 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1870 | *John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1871 | *†John C. Selden, | Henry Rawle, | Wm. W. Reed, |
| 1872 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1873 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1874 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1875 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1876 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed, |
| 1877 | Michael Liebel, | John Gensheimer, | Wm. W. Reed, |
| 1878 | Michael Liebel, | *J. M. Bryant, | Wm. W. Reed, |
| 1879 | Michael Liebel, | *J. M. Bryant, | *G. W. F. Sherwin, |
| 1880 | Michael Liebel, | *J. M. Bryant, | *G. W. F. Sherwin, |
| 1881 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1882 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1883 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1884 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin, |
| 1885 | Michael Liebel, | Benjamin Whitman, | Geo. W. Starr, |
| 1886 | C. Kessler, | Benjamin Whitman, | Geo. W. Starr, |
| 1887 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1888 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1889 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1890 | C. Kessler, | C. J. Brown, | Geo. W. Starr, |
| 1891 | C. Kessler, | C. J. Brown, | Wm. Hardwick, |
| 1892 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, |
| 1893 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, |
| 1894 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick, |
| 1895 | T. W. Shacklett, | ‡C. J. Brown, | Wm. Hardwick, |
| 1896 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick, |
| 1897 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |

* Dead.

† Mr. Selden resigned before the expiration of his second term; Mr. Barr was substituted by the other Commissioners, and afterward appointed by the Court.

‡ C. J. Brown resigned December 28, 1895, having been elected Treasurer of Erie County, Penna. Clark Olds was chosen by the other Commissioners, for the unexpired term, on the recommendation of the Court, January 2, 1896.

Officers of Water Works, from Organization to Dec. 31, 1897.

| | President. | Secretary & Treasurer. | Assistant Secretary. |
|------|--------------------|------------------------|----------------------|
| 1867 | Wm. W. Reed, | Wm. Brewster, | ..... |
| 1868 | Wm. W. Reed, | Wm. Brewster, | ..... |
| 1869 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1870 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1871 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1872 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1873 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1874 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1875 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1876 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1877 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1878 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1879 | Michael Liebel, | B. F. Sloan, | ..... |
| 1880 | Michael Liebel, | B. F. Sloan, | ..... |
| 1881 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1882 | *G. W. F. Shermin, | B. F. Sloan, | ..... |
| 1883 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1884 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer, |
| 1885 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer, |
| 1886 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer, |
| 1887 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer, |
| 1888 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer, |
| 1889 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer, |
| 1890 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer, |
| 1891 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer, |
| 1892 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer, |
| 1893 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer, |
| 1894 | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer, |
| 1895 | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer, |
| 1896 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer, |
| 1897 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer, |

* Dead.

NOTE.—Mr. Brewster was elected June 14, 1867; resigned October 26, 1868; served 1 year, 4 months and 12 days. Mr. Perkins was elected June 14, 1867; resigned March 30, 1878; same accepted December 21, 1878, to take effect January 1, 1879; served 10 years, 2 months and 5 days. Mr. Sloan was elected January 1, 1879; continued in office to June 1, 1891; served 12 years and 5 months. Mr. Himrod was appointed Secretary May 23, 1891, to take effect June 1, 1891. Mr. Gensheimer was appointed Assistant Secretary January 26, 1884.



GEO. W. STARR,
Commissioner,
1885-1890.

**Monthly Receipts from all Sources during the Year Ending
December 31st, 1897.**

| Month. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|---------------|-------------|-------------|----------|-----------|-----------|--------------|
| January..... | \$22,388 15 | \$ 5,698 05 | \$ 38 00 | \$251 63 | \$ 15 50 | \$ 28,391 33 |
| February..... | 1,679 44 | 24 46 | 8 66 | 51 36 | 30 70 | 1,794 62 |
| March..... | 323 88 | 475 09 | 8 92 | 237 96 | 51 53 | 1,097 38 |
| April..... | 21,499 84 | 5,197 92 | 13 00 | 1 52 | 46 90 | 26,759 18 |
| May..... | 2,373 95 | 332 07 | 19 67 | 50 | 227 60 | 2,953 79 |
| June..... | 486 97 | 432 85 | 13 50 | 1 67 | 78 92 | 1,013 91 |
| July..... | 22,391 93 | 5,409 97 | 11 73 | 21 09 | 70 23 | 27,904 95 |
| August..... | 2,139 07 | 67 35 | 19 84 | 58 90 | 28 24 | 2,313 40 |
| September... | 362 24 | 402 16 | 24 15 | 9 01 | 50 20 | 847 76 |
| October..... | 22,381 92 | 6,052 20 | 14 44 | 3 44 | 101 77 | 28,553 77 |
| November.... | 1,983 15 | 863 72 | 11 05 | ..... | 18 73 | 2,876 65 |
| December.... | 90 50 | 17 83 | 10 75 | 135 98 | 117 87 | 372 93 |
| Total..... | \$98,101 04 | \$24,973 67 | \$193 71 | \$773 06 | \$838 19 | \$124,879 67 |

**Receipts from each Ward during the Year Ending December
31st, 1897.**

| Wards. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|--------------|-------------|-------------|----------|-----------|-----------|--------------|
| First..... | \$13,260 20 | \$ 4,252 93 | \$ 55 34 | \$ 76 01 | \$204 62 | \$ 17,849 10 |
| Second..... | 21,735 34 | 11,825 27 | 25 10 | 36 39 | 157 30 | 33,779 40 |
| Third..... | 23,885 63 | 3,464 02 | 50 10 | 369 80 | 188 70 | 27,958 25 |
| Fourth..... | 18,616 82 | 1,140 65 | 10 92 | 256 46 | 79 23 | 20,104 08 |
| Fifth..... | 8,945 06 | 3,091 19 | 25 50 | 4 80 | 63 76 | 12,130 31 |
| Sixth..... | 10,915 72 | 949 82 | 26 75 | 19 79 | 144 58 | 12,056 66 |
| Seventh..... | 742 27 | 249 79 | ..... | 9 81 | ..... | 1,001 87 |
| Total | \$98,101 04 | \$24,973 67 | \$193 71 | \$773 06 | \$838 19 | \$124,879 67 |



C. KESSLER,
Commissioner,
1886-1891.

**Cash Account of Secretary and Treasurer of Commissioners of
Water Works, in the City of Erie, for the Year Ending
December 31, 1897.**

| Month. | Receipts. | Deposited with Treasurer City of Erie. | Balance in Office at Close of Busi- ness each month. |
|----------------|--------------|--|--|
| January..... | \$28,391 33 | \$23,630 85 | \$4,760 48 |
| February..... | 1,794 62 | 6,498 32 | 56 78 |
| March..... | 1,097 38 | 1,031 81 | 122 35 |
| April..... | 26,759 18 | 23,360 86 | 3,520 67 |
| May..... | 2,953 79 | 6,411 53 | 62 93 |
| June..... | 1,013 91 | 643 22 | 433 62 |
| July..... | 27,904 95 | 25,030 62 | 3,307 95 |
| August..... | 2,313 40 | 5,536 44 | 84 91 |
| September..... | 847 76 | 801 08 | 131 59 |
| October..... | 28,553 77 | 23,774 40 | 4,910 96 |
| November..... | 2,876 65 | 7,730 89 | 56 72 |
| December..... | 372 93 | 429 65 | ..... |
| Total..... | \$124,879 67 | \$124,879 67 | ..... |

**Statement of Account with Treasurer of the City of Erie, for
the Year Ending December 31, 1897.**

| Month. | Received from Secre- tary and Treasurer Commissioners of Water Works, in the City of Erie. | Paid on Warrants of Commissioners of Water Works, in the City of Erie. | Monthly Balances. |
|------------------------|--|---|----------------------|
| Balance from 1896..... | \$ 635 29 | ..... | ..... |
| January..... | 23,630 85 | \$ 14,781 51 | \$ 9,484 63 |
| February..... | 6,498 32 | 3,688 02 | 12,294 03 |
| March..... | 1,031 81 | 2,991 86 | 10,333 98 |
| April..... | 23,360 86 | 3,234 31 | 30,460 53 |
| May..... | 6,411 53 | 10,727 46 | 26,144 60 |
| June..... | 643 22 | 14,473 12 | 12,314 70 |
| July..... | 25,030 62 | 10,777 00 | 26,568 32 |
| August..... | 5,536 44 | 9,571 48 | 22,533 28 |
| September..... | 801 08 | 7,001 02 | 16,333 04 |
| October..... | 23,774 40 | 19,350 77 | 20,756 97 |
| November..... | 7,730 89 | 15,951 49 | 12,536 37 |
| December..... | 429 65 | 12,528 84 | 437 18 |
| Total..... | \$125,514 96 | \$125,077 78 | ..... |



CONRAD J. BROWN,
Commissioner,
1887-1895.

**Amount Collected for Water Furnished annually, showing
Total Collections, also the Increase and Decrease
each Year since the Commencement
of the Water Works.**

| Year Ending Dec. 31st. | RECEIVED. | | ANNUAL. | |
|---------------------------|-------------|--------------|-------------|------------|
| | Annually. | Totals. | Increase. | Decrease. |
| 1869..... | \$ 4,264 47 | | | |
| 1870..... | 9,237 30 | \$ 13,501 77 | \$ 4,972 83 | |
| 1871..... | 18,138 08 | 31,639 85 | 8,900 78 | |
| 1872..... | 21,652 68 | 53,292 53 | 3,514 60 | |
| 1873..... | 25,560 40 | 78,852 93 | 3,907 72 | |
| 1874..... | 27,938 90 | 106,791 83 | 2,378 50 | |
| 1875..... | 29,639 38 | 136,431 21 | 1,700 48 | |
| 1876..... | 31,048 76 | 167,479 97 | 1,409 38 | |
| 1877..... | 32,276 57 | 199,756 54 | 1,227 81 | |
| 1878..... | 29,636 01 | 229,392 55 | | \$2,640 56 |
| 1879..... | 33,343 20 | 262,735 75 | 3,707 19 | |
| 1880..... | 37,385 00 | 300,120 75 | 4,041 80 | |
| 1881..... | 40,385 87 | 340,506 62 | 3,000 87 | |
| 1882..... | 43,818 73 | 384,325 35 | 3,432 86 | |
| 1883..... | 48,269 89 | 432,595 24 | 4,451 16 | |
| 1884..... | 51,852 78 | 484,448 02 | 3,582 89 | |
| 1885..... | 53,550 35 | 537,998 37 | 1,697 57 | |
| 1886..... | 58,725 00 | 596,723 37 | 5,174 65 | |
| 1887..... | 67,121 92 | 663,845 29 | 8,396 92 | |
| 1888..... | 73,197 03 | 737,042 32 | 6,075 11 | |
| 1889..... | 81,110 68 | 818,153 00 | 7,913 65 | |
| 1890..... | 87,279 96 | 905,432 96 | 6,169 28 | |
| 1891..... | 93,891 55 | 999,324 51 | 6,611 59 | |
| 1892..... | 105,527 03 | 1,104,851 54 | 11,635 48 | |
| 1893..... | 111,247 43 | 1,216,098 97 | 5,720 40 | |
| 1894..... | 111,821 94 | 1,327,920 91 | 574 51 | * |
| 1895..... | 116,927 63 | 1,444,848 54 | 5,105 69 | |
| 1896..... | 121,442 94 | 1,566,291 48 | 4,515 31 | |
| 1897..... | 124,106 61 | 1,690,398 09 | 2,663 67 | |

* Meter rates for water changed from a sliding scale of 6 cents to 10 cents per 1,000 gallons, according to amount consumed, to a flat rate of 6 cents per 1,000 gallons, causing a reduction in receipts of \$5,000.00.

STATEMENT OF WARRANTS ISSUED IN 1897.

JANUARY.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|--|-----------|
| 2 | 8227 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | \$ 176 47 |
| 9 | 8228 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 206 21 |
| 11 | 8229 | I. A. Paisley..... | Coal..... | 393 01 |
| | 8230 | Reinhart Klaus..... | Labor..... | 39 00 |
| | 8231 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 195 26 |
| | 8232 | Thacher & Breymen..... | Laying Intake Pipe No. 2..... | 3,036 00 |
| | 8233 | Lake Shore Foundry..... | Pipe..... | 7,747 94 |
| 23 | 8234 | Wm. F. Nick & Son..... | Varnish, Putty, Etc..... | 1 70 |
| | 8235 | Saltman & Austin..... | Cement and Pipe..... | 2 03 |
| | 8236 | Hollands Mfg. Co..... | Tools and Repairs..... | 3 87 |
| | 8237 | Atlantic Refining Co..... | Oil..... | 4 00 |
| | 8238 | Brown & Thomas..... | Old Iron..... | 4 28 |
| | 8239 | A. Brugger..... | Wooden Plugs..... | 4 30 |
| | 8240 | Times-Graphic and Observer Co..... | Printing..... | 4 50 |
| | 8241 | The Erie Dispatch..... | Paper..... | 5 00 |
| | 8242 | Globe Iron Foundry Co..... | Castings..... | 5 17 |
| | 8243 | C. Kessler..... | Brooms and Tallow..... | 5 25 |
| | 8244 | Emil Streuber..... | Sole Leather..... | 5 50 |
| | 8245 | E. McK. Whitley..... | Coke and Wood..... | 10 00 |
| | 8246 | The Henesey Manufacturing Co..... | Leather Washers..... | 10 50 |
| | 8247 | Wm. Schade & Co..... | Repairing Tools..... | 11 67 |
| | 8248 | Lake City Machine Shop..... | Tools, Etc..... | 12 40 |
| | 8249 | Herald Printing and Publishing Co..... | Books and Stationery..... | 12 70 |
| | 8250 | Wm. Denmore & Co..... | Oats..... | 14 00 |
| | 8251 | Henry R. Worthington..... | Engine Repairs..... | 14 87 |
| | 8252 | Jarecki Manufacturing Co..... | Check Valves..... | 15 50 |

JANUARY—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|---|-------------|
| 23 | 8253 | R. D. Wood & Co. | Repairs for Fire Hydrants..... | 18 00 |
| | 8254 | O. C. Thayer & Son..... | Fire-Brick and Clay..... | 24 50 |
| | 8255 | Ashby & Vincent..... | Books and Stationery..... | 24 10 |
| | 8256 | A. S. Pinney..... | Hardware..... | 24 60 |
| | 8257 | Erie Machine Shop..... | Boiler Repairs, Etc..... | 47 23 |
| | 8258 | W. P. Mason..... | Investigating Water..... | 51 00 |
| | 8259 | James L. Firman..... | Teaming..... | 54 29 |
| | 8260 | Erie Mfg. and Supply Co..... | Waste and Packing..... | 66 98 |
| | 8261 | Erie Oil Works..... | Oil..... | 79 75 |
| | 8262 | South Erie Iron Works..... | Castings..... | 84 26 |
| | 8263 | Chas. S. Clarke, P. M..... | Postal Cards..... | 100 00 |
| | 8264 | Hays Manufacturing Co..... | Fittings for Connections..... | 116 03 |
| | 8265 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 90 79 |
| | 8266 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 145 13 |
| | 8267 | National Lead Co..... | Lead Pipe and Solder..... | 246 98 |
| | 8268 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 146 20 |
| | 8269 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary..... | 613 88 |
| | 8270 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary..... | 906 66 |
| | | Total..... | | \$14,781 51 |



WILLIAM HARDWICK,
Commissioner,
Since 1891—

FEBRUARY.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|------------------------------|---------|
| 6 | 8271 | George Schlindwein | Repairing Harness, etc. | \$ 1 10 |
| | 8272 | Union Iron Works | Fire Door Liners | 1 25 |
| | 8273 | H. F. Watson Company | Labor | 1 35 |
| | 8274 | Edison Construction & Supply Department | Incandescent Lamps, etc. | 1 73 |
| | 8275 | The Flickinger Roofing and Cornice Co., Ltd. | Pump Valves and Labor | 1 85 |
| | 8276 | Times-Graphic & Observer Co. | Advertising | 2 00 |
| | 8277 | Union Ice Company | Ice | 2 44 |
| | 8278 | Erie Oil Works | Oil | 3 75 |
| | 8279 | The Herald Printing & Publishing Co. | Advertising | 4 00 |
| | 8280 | Held, Gorenflo & Co. | Advertising | 4 00 |
| | 8281 | The Erie Dispatch | Advertising | 4 00 |
| | 8282 | J. N. Blaisdell | Horse shoeing | 4 80 |
| | 8283 | Brown & Thomas | Old Iron | 4 88 |
| | 8284 | Lyman Felheim | Lumber and Labor | 5 14 |
| | 8285 | C. Kessler | Soap and Salt | 5 50 |
| | 8286 | S. S. Burton | Coal | 5 50 |
| | 8287 | Thomas Pickering | Carriage hire | 5 75 |
| | 8288 | Henry Shenk | Lumber and Labor | 6 17 |
| | 8289 | Wm. F. Nick & Son | Paint, oil, and Brushes | 6 30 |
| | 8290 | O. C. Thayer & Son | Cement | 6 85 |
| | 8291 | John J. O'Brien | Printing | 8 75 |
| | 8292 | Jarecki Manufacturing Co. | Repairs for Meters and Tools | 13 25 |
| | 8293 | Wm. Densmore & Co. | Oats | 20 00 |
| | 8294 | E. J. Riblet | Shop Rent | 21 05 |
| | 8295 | Erie Machine Shop | Repairing Boilers | 26 49 |
| | 8296 | South Erie Iron Works | Castings | 27 95 |
| | 8297 | W. DeWitt Himrod | Stationery | 33 65 |
| | 8298 | Ashby & Vincent | Books and Stationery | 56 25 |
| | 8299 | N. Y. & Penn'a Telephone & Telegraph Co. | Rental of Telephones | 61 56 |
| | 8300 | Geo. C. Gensheimer, Assistant Secretary | Sundries | |

FEBRUARY—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|---|---|-------------|
| 6 | 8301 | Erie Mfg. & Supply Co. | Boiler Repairs, Waste and Packing | \$ 62 47 |
| | 8302 | Hays Manufacturing Co. | Fittings for Connections, etc. | 70 07 |
| | 8303 | Atlantic Refining Co. | Oil | 123 22 |
| | 8304 | J. A. Faisley | Coal | 308 32 |
| | 8305 | Jas. L. Firman | Teaming | 6 95 |
| | 8306 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 151 90 |
| 13 | 8307 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 129 72 |
| | 8308 | D. P. Murphy | Mason Work | 163 25 |
| 20 | 8309 | Geo. C. Gensheimer, Assistant Secretary | Sundries | 4 75 |
| | 8310 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 151 79 |
| | 8311 | Pennsylvania Company | Freight | 25 00 |
| 27 | 8312 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 146 50 |
| | 8313 | T. W. Shacklett | Services as Commissioner | 150 00 |
| | 8314 | William Hardwick | Services as Commissioner | 150 00 |
| | 8315 | Clark Olds | Services as Commissioner | 150 00 |
| | 8316 | Pay Roll—Pumping Station | Disbursed by Geo. C. Gensheimer, Asst's Secretary | 634 91 |
| 8317 | | Pay Roll—Office and Inspectors | Disbursed by Geo. C. Gensheimer, Asst's Secretary | 906 66 |
| Total | | | | \$ 3,688 92 |

MARCH.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|---|-------------|
| 6 | 8318 | Robt. J. Saltman | Coal | 2 50 |
| | 8319 | Herald Printing and Publishing Co. | Stationery | 3 65 |
| | 8320 | Edison Construction and Supply Department | Electric Light Fixtures | 3 68 |
| | 8321 | South Erie Iron Works | Castings | 8 40 |
| | 8322 | E. McK. Whitley | Coke and Wood | 12 60 |
| | 8323 | J. N. Blaisdell | Horse Shoeing, December, 1896 and February, 1897. | 16 20 |
| | 8324 | Dispatch Printing and Engraving Co., Limited | Printing and Paper | 18 00 |
| | 8325 | G. J. Gebhardt | Coal | 23 00 |
| | 8326 | Selden Brick Company | Brick | 30 00 |
| | 8327 | O. C. Thayer & Son | Cement, Fire-Brick and Clay | 34 75 |
| | 8328 | E. J. Riblet | Shop Rent, February and March, 1897 | 40 00 |
| | 8329 | Erie Mfg. and Supply Co. | Packing, Tools, etc. | 50 10 |
| | 8330 | Erie Machine Shop | Boiler and Engine Repairs | 72 13 |
| | 8331 | Hays Manufacturing Co. | Pipe and Fittings | 78 55 |
| | 8332 | Erie Oil Works | Oil | 79 00 |
| | 8333 | J. A. Paisley | Coal | 359 45 |
| | 8334 | Geo. C. Gensheimer, Assistant Secretary | Sundries | 9 50 |
| | 8335 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 135 51 |
| 13 | 8336 | Geo. C. Gensheimer, Assistant Secretary | Sundries | 4 15 |
| | 8337 | Pay Roll—Street Work | Disbursed by M. L. Whitley Clerk | 136 05 |
| 20 | 8338 | Geo. C. Gensheimer, Assistant Secretary | Sundries | 2 94 |
| | 8339 | D. P. Murphy | Mason Work | 25 75 |
| | 8340 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 137 87 |
| | 8341 | Chas. S. Clarke, P. M. | Postage Stamps | 15 00 |
| | 8342 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 190 62 |
| 27 | 8343 | Pay Roll—Pumping Station | Disbursed by Geo. C. Gensheimer, Asst Secretary | 635 80 |
| 31 | 8344 | Pay Roll—Office, Inspectors, etc. | Disbursed by Geo. C. Gensheimer, Asst Secretary | 866 66 |
| | | Total | | \$ 2,991 86 |



TURNER W. SHACKLETT,
Commissioner,
Since 1892-

APRIL.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|--------------------------------------|---------|
| 3 | 8345 | Erie Steam Bending Works... | Lumber..... | \$ 1 20 |
| | 8346 | Curtis Johnson..... | Lumber and Labor..... | 1 37 |
| | 8347 | Thomson Meter Co..... | Repairing Meter..... | 1 50 |
| | 8348 | The Flickinger Roofing and Cornice Co., Ltd..... | Galvanized Iron and Labor..... | 1 65 |
| | 8349 | Geo. Schlindwein..... | Repairing Harness..... | 1 85 |
| | 8350 | The University of Pennsylvania Press..... | One Year's Subscription..... | 2 00 |
| | 8351 | Zuck Hardware Co..... | Steel Rakes..... | 2 00 |
| | 8352 | O. C. Thayer & Son..... | Cement and Lime..... | 2 40 |
| | 8353 | A. Brugger..... | Stamper and Wooden Plugs..... | 3 00 |
| | 8354 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 3 72 |
| | 8355 | Ashby & Vincent..... | Stationery..... | 3 90 |
| | 8356 | Engineering News..... | One Year's Subscription..... | 5 00 |
| | 8357 | Jos. C. Dodsworth..... | Top Dressing..... | 5 85 |
| | 8358 | J. N. Blaisdell..... | Horse Shoeing and Wagon Repairs..... | 6 85 |
| | 8359 | National Meter Co..... | Repairing Meter..... | 9 00 |
| | 8360 | S. P. Ensign..... | Insurance..... | 11 00 |
| | 8361 | Wm. Densmore & Co..... | Oats..... | 13 00 |
| | 8362 | Lake Shore Foundry..... | Sprinkler Tees..... | 18 12 |
| | 8363 | E. J. Riblet..... | Shop Rent..... | 20 00 |
| | 8364 | Jarecki Manufacturing Co..... | Fittings and Valve..... | 22 99 |
| | 8365 | James L. Firman..... | Teaming..... | 23 55 |
| | 8366 | Harold M. Sturgeon..... | Insurance..... | 34 00 |
| | 8367 | Erie Machine Shop..... | Boiler Repairs, etc..... | 45 04 |
| | 8368 | Hays Manufacturing Co..... | Fittings, Pipe, etc..... | 80 85 |
| | 8369 | Atlantic Refining Co..... | Oil..... | 92 45 |
| | 8370 | Erie Mfg. and Supply Co..... | Waste and Packing, etc..... | 102 80 |
| | 8371 | Momeyer & Graf..... | Coal..... | 138 00 |
| | 8372 | J. A. Paisley..... | Coal..... | 361 71 |
| | 8373 | Herald Printing and Publishing Co..... | Printing, Books and Stationery..... | 408 33 |
| | 8374 | The People Publishing Association..... | Advertising..... | 1 50 |

STATEMENT OF WARRANTS ISSUED IN 1897.

JANUARY.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|--|-----------|
| 2 | 8227 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | \$ 176 47 |
| 9 | 8228 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 206 21 |
| | 8229 | J. A. Paisley..... | Coal..... | 393 01 |
| 11 | 8230 | Reinhart Klaus..... | Labor..... | 39 00 |
| | 8231 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 195 26 |
| | 8232 | Thacher & Breyman..... | Laying Intake Pipe No. 2..... | 3,036 00 |
| | 8233 | Lake Shore Foundry..... | Pipe..... | 7,747 94 |
| 23 | 8234 | Wm. F. Nick & Son..... | Varnish, Putty, Etc..... | 1 70 |
| | 8235 | Saltsman & Austin..... | Cement and Pipe..... | 2 03 |
| | 8236 | Hollands Mfg. Co..... | Tools and Repairs..... | 3 87 |
| | 8237 | Atlantic Refining Co..... | Oil..... | 4 00 |
| | 8238 | Brown & Thomas..... | Old Iron..... | 4 28 |
| | 8239 | A. Brugger..... | Wooden Plugs..... | 4 30 |
| | 8240 | Times-Graphic and Observer Co..... | Printing..... | 4 50 |
| | 8241 | The Erie Dispatch..... | Paper..... | 5 00 |
| | 8242 | Globe Iron Foundry Co..... | Castings..... | 5 17 |
| | 8243 | C. Kessler..... | Brooms and Tallow..... | 5 25 |
| | 8244 | Emil Streuber..... | Sole Leather..... | 5 50 |
| | 8245 | E. McK. Whitley..... | Coke and Wood..... | 10 00 |
| | 8246 | The Henesey Manufacturing Co..... | Leather Washers..... | 10 50 |
| | 8247 | Wm. Schade & Co..... | Repairing Tools..... | 11 67 |
| | 8248 | Lake City Machine Shop..... | Tools, Etc..... | 12 40 |
| | 8249 | Herald Printing and Publishing Co..... | Books and Stationery..... | 12 70 |
| | 8250 | Wm. Denmore & Co..... | Oats..... | 14 00 |
| | 8251 | Henry R. Worthington..... | Engine Repairs..... | 14 87 |
| | 8252 | Jarecki Manufacturing Co..... | Check Valves..... | 15 50 |

JANUARY—Continued.
TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|---|----------------|
| 23 | 8253 | R. D. Wood & Co. | Repairs for Fire Hydrants..... | 18 00 |
| | 8254 | O. C. Thayer & Son..... | Fire-Brick and Clay..... | 24 50 |
| | 8255 | Ashby & Vincent..... | Books and Stationery..... | 24 10 |
| | 8256 | A. S. Pinney..... | Hardware..... | 24 60 |
| | 8257 | Erie Machine Shop..... | Boller Repairs, Etc..... | 47 23 |
| | 8258 | W. P. Mason..... | Investigating Water..... | 51 00 |
| | 8259 | James L. Firman..... | Teaming..... | 54 29 |
| | 8260 | Erie Mfg. and Supply Co..... | Waste and Packing..... | 66 98 |
| | 8261 | Erie Oil Works..... | Oil..... | 79 75 |
| | 8262 | South Erie Iron Works..... | Castings..... | 84 26 |
| | 8263 | Chas. S. Clarke, P. M..... | Postal Cards..... | 100 00 |
| | 8264 | Hays Manufacturing Co..... | Fittings for Connections..... | 116 03 |
| | 8265 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 90 79 |
| | 8266 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 145 13 |
| | 8267 | National Lead Co..... | Lead Pipe and Solder..... | 246 98 |
| | 8268 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 146 20 |
| | 8269 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary..... | 613 88 |
| | 8270 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary..... | 906 66 |
| | | Total..... | | \$14,781 51 |



WILLIAM HARDWICK,
Commissioner,
Since 1891-

FEBRUARY.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-----|--|------------------------------|---------|
| 8271 | 6 | George Schilndwein | Repairing Harness, etc. | \$ 1 10 |
| 8272 | | Union Iron Works | Fire Door Liners | 1 25 |
| 8273 | | H. F. Watson Company | Labor | 1 35 |
| 8274 | | Edison Construction & Supply Department | Incandescent Lamps, etc | 1 73 |
| 8275 | | The Flickinger Roofing and Cornice Co., Ltd. | Pump Valves and Labor | 1 85 |
| 8276 | | Times-Graphic & Observer Co. | Advertising | 2 00 |
| 8277 | | Union Ice Company | Ice | 2 44 |
| 8278 | | Erie Oil Works | Oil | 3 75 |
| 8279 | | The Herald Printing & Publishing Co. | Advertising | 4 00 |
| 8280 | | Held, Gorenflo & Co. | Advertising | 4 00 |
| 8281 | | The Erie Dispatch | Advertising | 4 00 |
| 8282 | | J. N. Blaisdell | Horse shoeing | 4 80 |
| 8283 | | Brown & Thomas | Old iron | 4 88 |
| 8284 | | Lyman Felheim | Lumber and Labor | 5 14 |
| 8285 | | C. Kessler | Soap and Salt | 5 50 |
| 8286 | | S. S. Burton | Coal | 5 50 |
| 8287 | | Thomas Pickering | Carriage hire | 5 75 |
| 8288 | | Henry Shenk | Lumber and Labor | 6 10 |
| 8289 | | Wm. F. Nick & Son | Paint, oil, and Brushes | 6 17 |
| 8290 | | O. C. Thayer & Son | Cement | 6 30 |
| 8291 | | John J. O'Brien | Printing | 6 85 |
| 8292 | | Jarecki Manufacturing Co. | Repairs for Meters and Tools | 8 75 |
| 8293 | | Wm. Densmore & Co. | Oats | 13 25 |
| 8294 | | E. J. Riblet | Shop Rent | 20 00 |
| 8295 | | Erie Machine Shop | Repairing Boilers | 21 05 |
| 8296 | | South Erie Iron Works | Castings | 26 49 |
| 8297 | | W. DeWitt Himrod | Stationery | 27 95 |
| 8298 | | Ashby & Vincent | Books and Stationery | 33 65 |
| 8299 | | N. Y. & Penn'a Telephone & Telegraph Co. | Rental of Telephones | 56 25 |
| 8300 | | Geo. C. Gensheimer, Assistant Secretary | Sundries | 61 56 |

FEBRUARY—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|---|--|----------------|
| 6 | 8301 | Eric Mfg. & Supply Co. | Boiler Repairs, Waste and Packing | \$ 62 47 |
| | 8302 | Hays Manufacturing Co. | Fittings for Connections, etc. | 70 07 |
| | 8303 | Atlantic Refining Co. | Oil | 123 22 |
| | 8304 | J. A. Paisley | Coal | 308 32 |
| | 8305 | Jas. L. Firman | Teaming | 6 95 |
| | 8306 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 151 90 |
| 13 | 8307 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 120 72 |
| | 8308 | D. P. Murphy | Mason Work | 163 25 |
| 20 | 8309 | Geo. C. Gensheimer, Assistant Secretary | Sundries | 4 75 |
| | 8310 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 151 79 |
| | 8311 | Pennsylvania Company | Freight | 25 00 |
| 27 | 8312 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 146 50 |
| | 8313 | T. W. Shacklett | Services as Commissioner | 150 00 |
| | 8314 | William Hardwick | Services as Commissioner | 150 00 |
| | 8315 | Clark Olds | Services as Commissioner | 150 00 |
| | 8316 | Pay Roll—Pumping Station | Disbursed by Geo. C. Gensheimer, Ass't Secretary | 634 91 |
| | 8317 | Pay Roll—Office and Inspectors | Disbursed by Geo. C. Gensheimer, Ass't Secretary | 906 66 |
| | | Total | | \$ 3,688 92 |

MARCH.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|---|-------------|
| | | | | |
| 6 | 8318 | Robt. J. Saltzman | Coal | 2 50 |
| | 8319 | Herald Printing and Publishing Co. | Stationery | 3 65 |
| | 8320 | Edison Construction and Supply Department | Electric Light Fixtures | 3 68 |
| | 8321 | South Erie Iron Works | Castings | 8 40 |
| | 8322 | E. McK. Whitley | Coke and Wood | 12 60 |
| | 8323 | J. N. Blaisdell | Horse Shoeing, December, 1896 and February, 1897. | 16 20 |
| | 8324 | Dispatch Printing and Engraving Co., Limited | Printing and Paper | 18 00 |
| | 8325 | G. J. Gebhardt | Coal | 23 00 |
| | 8326 | Selden Brick Company | Brick | 30 00 |
| | 8327 | O. C. Thayer & Son | Cement, Fire-Brick and Clay | 34 75 |
| | 8328 | E. J. Riblet | Shop Rent, February and March, 1897 | 40 00 |
| | 8329 | Erie Mfg. and Supply Co. | Packing, Tools, etc. | 50 10 |
| | 8330 | Erie Machine Shop | Boiler and Engine Repairs | 72 13 |
| | 8331 | Hays Manufacturing Co. | Pipe and Fittings | 78 55 |
| | 8332 | Erie Oil Works | Oil | 79 00 |
| | 8333 | J. A. Paisley | Coal | 359 45 |
| | 8334 | Geo. C. Gensheimer, Assistant Secretary | Sundries | 9 50 |
| | 8335 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 135 51 |
| 13 | 8336 | Geo. C. Gensheimer, Assistant Secretary | Sundries | 4 15 |
| | 8337 | Pay Roll—Street Work | Disbursed by M. L. Whitley Clerk | 136 05 |
| 20 | 8338 | Geo. C. Gensheimer, Assistant Secretary | Sundries | 2 94 |
| | 8339 | D. P. Murphy | Mason Work | 25 75 |
| | 8340 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 137 87 |
| | 8341 | Chas. S. Clarke, P. M. | Postage Stamps | 15 00 |
| | 8342 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk | 190 62 |
| 27 | 8343 | Pay Roll—Pumping Station | Disbursed by Geo. C. Gensheimer, Ass't Secretary | 635 80 |
| 31 | 8344 | Pay Roll—Office, Inspectors, etc. | Disbursed by Geo. C. Gensheimer, Ass't Secretary | 866 66 |
| | | Total | | \$ 2,991 86 |



TURNER W. SHACKLETT,
Commissioner,
Since 1892-

APRIL.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|--------------------------------------|---------|
| 3 | 8345 | Erie Steam Bending Works..... | Lumber..... | \$ 1 20 |
| | 8346 | Curtis Johnson..... | Lumber and Labor..... | 1 37 |
| | 8347 | Thomson Meter Co..... | Repairing Meter..... | 1 50 |
| | 8348 | The Flickinger Roofing and Cornice Co., Ltd..... | Galvanized Iron and Labor..... | 1 65 |
| | 8349 | Geo. Schindwein..... | Repairing Harness..... | 1 85 |
| | 8350 | The University of Pennsylvania Press..... | One Year's Subscription..... | 2 00 |
| | 8351 | Zuck Hardware Co..... | Steel Rakes..... | 2 00 |
| | 8352 | O. C. Thayer & Son..... | Cement and Lime..... | 2 40 |
| | 8353 | A. Brugger..... | Stamper and Wooden Plugs..... | 3 00 |
| | 8354 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 3 72 |
| | 8355 | Ashby & Vincent..... | Stationery..... | 3 90 |
| | 8356 | Engineering News..... | One Year's Subscription..... | 5 00 |
| | 8357 | Jos. C. Dodsworth..... | Top Dressing..... | 5 85 |
| | 8358 | J. N. Blaisdell..... | Horse Shoeing and Wagon Repairs..... | 6 85 |
| | 8359 | National Meter Co..... | Repairing Meter..... | 9 00 |
| | 8360 | S. P. Ensign..... | Insurance..... | 11 00 |
| | 8361 | Wm. Densmore & Co..... | Oats..... | 13 00 |
| | 8362 | Lake Shore Foundry..... | Sprinkler Tees..... | 18 12 |
| | 8363 | E. J. Riblet..... | Shop Rent..... | 20 00 |
| | 8364 | Jarecki Manufacturing Co..... | Fittings and Valve..... | 22 99 |
| | 8365 | James L. Firman..... | Teaming..... | 23 55 |
| | 8366 | Harold M. Sturgeon..... | Insurance..... | 34 00 |
| | 8367 | Erie Machine Shop..... | Boiler Repairs, etc..... | 45 04 |
| | 8368 | Hays Manufacturing Co..... | Fittings, Pipe, etc..... | 80 85 |
| | 8369 | Atlantic Refining Co..... | Oil..... | 92 45 |
| | 8370 | Erie Mfg. and Supply Co..... | Waste and Packing, etc..... | 102 80 |
| | 8371 | Momeyer & Graf..... | Coal..... | 138 00 |
| | 8372 | J. A. Paisley..... | Coal..... | 361 71 |
| | 8373 | Herald Printing and Publishing Co..... | Printing, Books and Stationery..... | 408 33 |
| | 8374 | The People Publishing Association..... | Advertising..... | 1 50 |

APRIL—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|------------|------|--|---|-------------|
| 3 | 8375 | Held, Gorenflo & Co..... | Advertising..... | \$ 2 50 |
| | 8376 | The Dispatch Publishing Co..... | Advertising..... | 2 75 |
| | 8377 | Lake City Machine Shop..... | Repairing Tools..... | 3 60 |
| | 8378 | Herald Printing and Publishing Co..... | Advertising..... | 3 75 |
| | 8379 | The Journal Co., Limited..... | Advertising..... | 4 00 |
| | 8380 | David Schlosser..... | Glass..... | 4 20 |
| | 8381 | Atlantic Refining Co..... | Oil..... | 23 65 |
| | 8382 | R. T. Walker..... | Barn Rent..... | 30 00 |
| | 8383 | Times-Graphic and Observer Co..... | Advertising, Books and Printing.... | 68 50 |
| | 8384 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk | 261 55 |
| 10 | 8385 | T. P. Rynder..... | Advertising..... | 2 50 |
| | 8386 | Wm. Schade & Co..... | Blacksmithing..... | 19 65 |
| 17 | 8387 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 370 64 |
| | 8388 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 433 73 |
| | 8389 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 25 24 |
| 24 | 8390 | F. P. Gill..... | Brass Plate..... | 55 00 |
| | 8391 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 30 20 |
| | 8392 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk | 457 40 |
| 30 | 8393 | The Lake Shore & Michigan Southern Ry. Co..... | Freight..... | 20 82 |
| Total..... | | | | \$ 3,234 31 |

MAY.

TO PAY VOUCHER.

| Date | No. | Of | For. | Amount. |
|------|------|--|--|-----------|
| 1 | 8394 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | \$ 450 91 |
| | 8395 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Genshelmer, Asst Secretary... | 637 60 |
| | 8396 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Genshelmer, Asst Secretary... | 866 66 |
| | 8397 | T. W. Shacklett..... | Services as Commissioner..... | 150 00 |
| | 8398 | Wm. Hardwick..... | Services as Commissioner..... | 150 00 |
| | 8399 | Clark Olds..... | Services as Commissioner..... | 150 00 |
| 5 | 8400 | Thacher & Breymen..... | Laying Intake No. 2..... | 2,616 76 |
| | 8401 | Raymond Lead Co..... | Lead..... | 1,280 19 |
| 8 | 8402 | R. T. Williams & Co..... | Sheet Lead..... | 2 31 |
| | 8403 | Robt. J. Saltsman..... | Coke..... | 2 36 |
| | 8404 | Wm. F. Nick & Son..... | Oil and Paint..... | 2 75 |
| | 8405 | Mehl & Sapper..... | Tools, Iron, etc..... | 2 80 |
| | 8406 | Schultz Bros..... | Grass Seed..... | 3 00 |
| | 8407 | Engineering News Publishing Co..... | Advertising..... | 3 20 |
| | 8408 | O. C. Thayer & Son..... | Cement..... | 3 85 |
| | 8409 | Thomson Meter Co..... | Repairing Meter..... | 3 95 |
| | 8410 | Curtis Johnson..... | Meter Box..... | 4 50 |
| | 8411 | The Dispatch Publishing Co..... | Advertising..... | 4 80 |
| | 8412 | J. N. Blaisdell..... | Horse Shoeing..... | 4 80 |
| | 8413 | Held, Gorenflo & Co..... | Advertising..... | 5 40 |
| | 8414 | Atlantic Refining Co..... | Oil..... | 5 84 |
| | 8415 | The Herald Printing & Publishing Co..... | Advertising..... | 6 00 |
| | 8416 | David Schlosser..... | Lumber..... | 6 98 |
| | 8417 | Palace Hardware Store..... | Lawn Mower..... | 7 00 |
| | 8418 | E. McK. Whitley..... | Coke..... | 7 68 |
| | 8419 | Bay State Iron Works, Ltd..... | Boiler Repairs, etc..... | 8 10 |
| | 8420 | South Erie Iron Works..... | Castings..... | 8 62 |
| | 8421 | Henry Beckman & Son..... | Grass Seed..... | 12 35 |
| | 8422 | Ashby & Vincent..... | Book..... | 12 75 |
| | 8423 | Jarecki Manufacturing Co..... | Hydrant, etc..... | 12 82 |



CLARK OLDS,
Commissioner,
Since 1896-

MAY Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|--|-------------|
| 8 | 8424 | Wm. Denamore & Co..... | Oats..... | \$ 13 00 |
| | 8425 | James L. Firman..... | Teaming..... | 17 64 |
| | 8426 | Times-Graphic-Observer Co..... | Advertising and Printing..... | 19 10 |
| | 8427 | E. J. Riblet..... | Shop Rent..... | 20 00 |
| | 8428 | R. D. Wood & Co..... | Nozzle Caps and Bolts..... | 20 40 |
| | 8429 | Erie Mfg. & Supply Co..... | Asbestos, Cement, Packing, etc..... | 37 55 |
| | 8430 | A. S. Pinney..... | Hardware and Tools..... | 39 26 |
| | 8431 | Henry R. Worthington..... | Valves..... | 50 67 |
| | 8432 | N. Y. & Penn'a Telephone & Telegraph Co..... | Rental of Telephones..... | 56 25 |
| | 8433 | Erie Machine Shop..... | Boiler and Engine Repairs..... | 80 82 |
| | 8434 | Erie Oil Works..... | Oil..... | 84 18 |
| | 8435 | Globe Iron Foundry Co..... | Castings..... | 112 42 |
| | 8436 | Geo. E. Barger..... | Premium—Insurance..... | 125 00 |
| | 8437 | Hays Manufacturing Co..... | Fittings for Connections..... | 195 78 |
| | 8438 | J. A. Paisley..... | Coal..... | 327 19 |
| | 8439 | Lake Shore Foundry..... | Pipe..... | 422 42 |
| | 8440 | Union Water Meter Co..... | Meter..... | 425 00 |
| | 8441 | Dispatch Printing & Engraving Co., Ltd..... | Printing..... | 19 00 |
| | 8442 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 14 70 |
| | 8443 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 437 65 |
| | 8444 | S. A. Davenport..... | Legal Services..... | 200 00 |
| 11 | 8444 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 9 30 |
| 15 | 8445 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 320 94 |
| | 8446 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 316 13 |
| 22 | 8447 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 769 43 |
| 31 | 8448 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 159 65 |
| | 8449 | Erie Sand & Gravel Co..... | Gravel..... | 159 65 |
| | | Total..... | | \$10,727 46 |

REPORT OF THE COMMISSIONERS OF

JUNE.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|--|----------|
| 1 | 8450 | J. M. Dietley..... | Typewriting..... | \$ 10 00 |
| | 8451 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 10 35 |
| | 8452 | Lake Shore and Michigan Southern Ry. Co..... | Freight..... | 22 10 |
| | 8453 | William Himrod, Secretary and Treasurer..... | American Water Works Association..... | 150 00 |
| | 8454 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Asst's Secretary..... | 680 00 |
| | 8455 | Pay Roll—Office, Inspectors..... | Disbursed by Geo. C. Gensheimer, Asst's Secretary..... | 866 66 |
| 6 | 8456 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 739 84 |
| 12 | 8457 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 607 34 |
| | 8458 | Erie Sand and Gravel Co..... | Gravel..... | 298 42 |
| | 8459 | Frank P. Thayer..... | Use of Ground..... | 5 00 |
| 19 | 8460 | Jarecki Manufacturing Co..... | Castings..... | 1 32 |
| | 8461 | Bay State Iron Works, Limited..... | Boiler Repairs..... | 1 35 |
| | 8462 | T. S. Buck..... | Rubber Stamps..... | 2 14 |
| | 8463 | Wm. F. Nick & Son..... | Oil, etc..... | 2 25 |
| | 8464 | Fire and Water..... | One Year's Subscription..... | 3 00 |
| | 8465 | Engineering News Publishing Co..... | Manual American Water Works..... | 3 00 |
| | 8466 | The Flickinger Roofing and Cornice Co., Ltd..... | Galvanized Iron and Labor..... | 3 23 |
| | 8467 | John H. Walker..... | Books and Stationery..... | 3 65 |
| | 8468 | W. J. Butler, Agent..... | Plumbing, Labor and Material..... | 4 10 |
| | 8469 | Herald Printing and Publishing Co..... | Stationery..... | 4 98 |
| | 8470 | C. W. Nick..... | Paint and Varnish..... | 5 10 |
| | 8471 | Lake City Machine Shop..... | Tools..... | 6 20 |
| | 8472 | Constable Bros..... | Glass, etc..... | 6 80 |
| | 8473 | Union Iron Works..... | Hoods, etc..... | 7 70 |
| | 8474 | J. N. Blaisdell..... | Horse Shoeing..... | 8 00 |
| | 8475 | David Schlosser..... | Lumber..... | 11 09 |
| | 8476 | Murphy Bros..... | Tools..... | 11 50 |
| | 8477 | Ashby & Vincent..... | Books and Stationery..... | 12 45 |
| | 8478 | Mehl & Sapper..... | Hardware and Tools..... | 13 99 |
| | 8479 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 14 78 |

JUNE—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|---|------------------------------------|-------------|
| 19 | 8480 | Zuck Hardware Co. | Tools. | \$ 16 15 |
| | 8481 | Hays Manufacturing Co. | Fittings for Connections. | 17 27 |
| | 8482 | Lake Shore Brick Works | Brick. | 18 00 |
| | 8483 | E. J. Riblet. | Shop Rent. | 20 00 |
| | 8484 | Erie Machine Shop. | Boiler and Engine Repairs. | 26 40 |
| | 8485 | Henry Beckman & Son. | Grass Seed, etc. | 33 80 |
| | 8486 | J. A. Paisley | Coal. | 37 01 |
| | 8487 | Schultz Bros. | Brooms, Pails, etc. | 37 58 |
| | 8488 | South Erie Iron Works. | Castings. | 38 43 |
| | 8489 | Atlantic Refining Co. | Oil. | 92 72 |
| | 8490 | Henry Mayer. | Repairing Pavements. | 102 71 |
| | 8491 | Union Water Meter Co. | Meters. | 108 00 |
| | 8492 | Erie Mfg. and Supply Co. | Packing, Tools, etc. | 137 83 |
| | 8493 | The J. L. Mott Iron Works. | Drinking Fountains. | 166 25 |
| | 8494 | O. C. Thayer & Son. | Cement. | 299 90 |
| | 8495 | R. G. Miller & Co. | Coal. | 308 32 |
| | 8496 | Lake Shore Foundry. | Pipe. | 418 20 |
| | 8497 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk. | 825 36 |
| | 8498 | Board of the Commissioners of the Sinking Fund. | The Sinking Fund | 7,500 00 |
| | 8499 | Wm. Schade. | Blacksmithing. | 35 68 |
| | 8500 | The Mohawk Refining Co. | Boiler Compound. | 37 63 |
| | 8501 | Pay Roll—Street Work | Disbursed by M. L. Whitley, Clerk. | 679 54 |
| | | Total. | | \$14,473 12 |



*B. F. SLOAN,
Secretary and Treasurer,
1879 to June 1, 1891.*

JULY.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|--|-----------|
| 1 | 8502 | T. W. Shacklett..... | Services as Commissioner..... | \$ 150 00 |
| | 8503 | Clark Olds..... | Services as Commissioner..... | 150 00 |
| | 8504 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary.. | 680 00 |
| | 8505 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary.. | 866 66 |
| 3 | 8506 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 967 20 |
| | 8507 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 7 33 |
| | 8508 | R. G. Miller & Co..... | Coal..... | 338 72 |
| 10 | 8509 | Mehl & Sapper..... | Hardware..... | 1 90 |
| | 8510 | Zuck Hardware Co..... | Hardware..... | 2 74 |
| | 8511 | Adams Bros..... | Meter Box..... | 3 00 |
| | 8512 | Keystone Electric Co..... | Carbon Brushes..... | 3 00 |
| | 8513 | Herald Printing and Publishing Co..... | Stationery..... | 3 50 |
| | 8514 | Lyman Felheim..... | Lumber..... | 5 14 |
| | 8515 | E. McK. Whitley..... | Coke..... | 5 94 |
| | 8516 | Lake Shore Brick Works..... | Brick..... | 6 50 |
| | 8517 | South Erie Iron Works..... | Castings..... | 8 37 |
| | 8518 | J. N. Blaisdell..... | Horse Shoeing and Wagon Repairs..... | 9 15 |
| | 8519 | Conrad J. Brown..... | Hay..... | 11 25 |
| | 8520 | Wm. Denmore & Co..... | Oats..... | 14 50 |
| | 8521 | C. Kessler..... | Brooms, Soap, etc..... | 14 67 |
| | 8522 | Union Iron Works..... | Boiler Repairs..... | 17 60 |
| | 8523 | Jas. L. Firman..... | Teaming..... | 18 65 |
| | 8524 | Standard Brick Works..... | Brick..... | 20 00 |
| | 8525 | E. J. Riblet..... | Shop Rent..... | 20 00 |
| | 8526 | Valentine Schultz..... | Brooms, Pails, etc..... | 27 00 |
| | 8527 | Erie Machine Shop..... | Boiler and Engine Repairs..... | 31 40 |
| | 8528 | D. P. Murphy..... | Mason Work..... | 31 50 |
| | 8529 | David Schlosser..... | Lumber..... | 36 63 |
| | 8530 | George Schlindwein..... | Harness and Repairs..... | 40 00 |
| | 8531 | Erie Mfg. and Supply Co..... | Waste, Packing, etc..... | 48 27 |

July—Continued.
TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|--|----------------|
| 10 | 8532 | V. D. Eichenlaub..... | Repairing Cut in Pavement..... | \$ 49 68 |
| | 8533 | N. Y. and Penna. Telephone and Telegraph Co..... | Telephone Rental..... | 56 25 |
| | 8534 | A. S. Pinney..... | Hardware and Tools..... | 85 51 |
| | 8535 | Bay State Iron Works, Limited..... | Boiler Repairs..... | 89 00 |
| | 8536 | Hays Manufacturing Co..... | Fittings for Connections, etc..... | 108 55 |
| | 8537 | Erie Oil Works..... | Oil..... | 132 50 |
| | 8538 | Henry Sherk..... | Plans and Specifications..... | 150 00 |
| | 8539 | Pay Roll—Street Work..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary.. | 694 45 |
| | 8540 | O. C. Thayer & Son..... | Cement, Brick and Clay..... | 2,229 95 |
| | 8541 | Adolph Brugger..... | Wooden Plugs..... | 5 10 |
| 17 | 8542 | J. O. Baker..... | Repairing Boat..... | 4 90 |
| | 8543 | Constable Bros..... | Estimate on Boiler House No 2..... | 270 58 |
| | 8544 | Pay Roll—Street Work..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary.. | 611 23 |
| 22 | 8545 | The Lake Shore & Michigan Southern Ry. Co..... | Freight..... | 12 33 |
| | 8546 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 19 85 |
| | 8547 | F. A. Mizener..... | Coal..... | 110 33 |
| 24 | 8548 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 426 93 |
| | 8549 | Wm. Hardwick..... | Services as Commissioner..... | 150 00 |
| 28 | 8550 | Erie Sand and Gravel Co..... | Sand..... | 198 92 |
| 31 | 8551 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 272 25 |
| | 8552 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary.. | 690 81 |
| | 8553 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary.. | 866 66 |
| Total..... | | | | \$10,777 00 |

AUGUST.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|------------------------------------|---------|
| 3 | 8554 | Pennsylvania Company..... | Freight..... | \$ 5 00 |
| | 8555 | Pennsylvania Railroad Company..... | Freight..... | 111 56 |
| 7 | 8556 | Mehl & Sapper..... | Hardware..... | 1 90 |
| | 8557 | The Journal Co..... | Advertising..... | 3 00 |
| | 8558 | The Dispatch Publishing Co..... | Advertising..... | 3 00 |
| | 8559 | Curtis Johnson..... | Meter Boxes..... | 5 50 |
| | 8560 | Times Publishing Company..... | Advertising..... | 5 70 |
| | 8561 | Held, Gorenflo & Co..... | Advertising..... | 5 80 |
| | 8562 | The Herald Printing & Publishing Co..... | Advertising..... | 6 00 |
| | 8563 | Lake Shore Brick Works..... | Brick..... | 6 10 |
| | 8564 | J. N. Blaisdell..... | Horse Shoeing..... | 6 35 |
| | 8565 | Wm. F. Nick & Son..... | Oils, etc..... | 6 40 |
| | 8566 | South Erie Iron Works..... | Castings..... | 8 46 |
| | 8567 | Brown & Thomas..... | Iron Rail..... | 9 00 |
| | 8568 | The Cereal Supply Company..... | Oats..... | 13 50 |
| | 8569 | The Henesey Manufacturing Co..... | Leather Washers..... | 14 70 |
| | 8570 | J. E. McCreary..... | Coal..... | 15 26 |
| | 8571 | Ashby & Vincent..... | Books and Stationery..... | 20 25 |
| | 8572 | E. J. Riblet..... | Shop Rent and Glass..... | 21 50 |
| | 8573 | Globe Iron Foundry Co..... | Castings..... | 23 03 |
| | 8574 | Frank Senger..... | Stone..... | 34 25 |
| | 8575 | William Hoffman..... | Drawings and Blue Prints..... | 35 00 |
| | 8576 | Chas. S. Clarke, Postmaster..... | Postal Cards..... | 40 00 |
| | 8577 | Thos. H. Cole, Collector..... | Taxes in Sixth Ward..... | 60 00 |
| | 8578 | Erie Machine Shop..... | Boiler and Engine Repairs..... | 63 39 |
| | 8579 | Union Water Meter Company..... | Meters and Repairs..... | 64 25 |
| | 8580 | McCreary Coke Co..... | Coal..... | 73 57 |
| | 8581 | Hays Manufacturing Co..... | Fittings for Connections, etc..... | 94 26 |
| | 8582 | Atlantic Refining Co..... | Oil..... | 117 84 |
| | 8583 | Erie Mfg. & Supply Co..... | Tools, Packing, Oil..... | 130 07 |



*WILLIAM HIMROD,
Secretary and Treasurer,
Since June 1, 1891.*

AUGUST—Continued.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|------------|--|--|-------------|
| 7 8584 | Pennsylvania Company..... | Freight..... | \$ 131 93 |
| 8585 | R. G. Miller & Co..... | Coal..... | 156 73 |
| 8586 | Henry Herbst, Collector..... | Taxes in Fourth Ward..... | 218 75 |
| 8587 | Lake Shore Foundry..... | Pipe..... | 277 74 |
| 8588 | O. C. Thayer & Son..... | Cement and Fire Clay..... | 850 20 |
| 8589 | James L. Firman..... | Teaming..... | 34 53 |
| 8590 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 39 65 |
| 8591 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 394 57 |
| 8592 | Constable Brothers..... | Estimate on Boiler House No. 2..... | 1,000 00 |
| 8593 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 4 10 |
| 8594 | Pennsylvania Company..... | Freight..... | 56 92 |
| 8595 | Constable Brothers..... | Foundation for Boilers..... | 255 85 |
| 8596 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 414 09 |
| 8597 | The Hensley Manufacturing Co..... | Leather Washers..... | 2 94 |
| 8598 | A. B. Aitken..... | Damages, Flooding Cellar..... | 13 65 |
| 8599 | Joseph G. Seyboldt..... | Boiler Repairs..... | 40 75 |
| 8600 | The Lake Shore & Michigan Southern Ry. Co..... | Freight..... | 123 34 |
| 8601 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 335 89 |
| 8602 | Constable Brothers..... | Estimate on Boiler House No. 2..... | 1,000 00 |
| 8603 | F. A. Mizener..... | Coal..... | 391 25 |
| 8604 | Dispatch Printing & Engraving Co, Ltd. | Printing and Stationery..... | 20 50 |
| 8605 | The Lake Shore & Michigan Southern Ry. Co..... | Freight..... | 37 82 |
| 8606 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 470 18 |
| 8607 | Constable Brothers..... | Estimate on Boiler House No. 2..... | 2,289 61 |
| 8608 | E. J. Morton..... | Services..... | 5 85 |
| Total..... | | | \$ 9,571 48 |

SEPTEMBER.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|---|----------------|
| 1 | 8609 | T. W. Shacklett..... | Services as Commissioner..... | \$ 150 00 |
| | 8610 | Wm. Hardwick..... | Services as Commissioner..... | 150 00 |
| | 8611 | Clark Olds..... | Services as Commissioner..... | 150 00 |
| | 8612 | Pay Roll—Pumping Station..... | Disbursed by John Kolb, Bookkeeper..... | 710 97 |
| | 8613 | Pay Roll—Office and Inspectors..... | Disbursed by John Kolb, Bookkeeper..... | 866 66 |
| 4 | 8614 | Wm. F. Nick & Son..... | Alcohol, Beeswax, Etc..... | 2 21 |
| | 8615 | A. S. Pinney..... | Hardware and Tools..... | 5 11 |
| | 8616 | Mehl & Sapper..... | Hardware and Tools..... | 5 38 |
| | 8617 | C. Kessler..... | Brooms, Twine, Etc..... | 6 37 |
| | 8618 | Cold Spring Ice Co..... | Ice..... | 6 85 |
| | 8619 | Emil Streuber..... | Valve Leather..... | 7 20 |
| | 8620 | Ashby & Vincent..... | Books and Stationery..... | 8 00 |
| | 8621 | E. J. Morton..... | Services..... | 13 15 |
| | 8622 | J. N. Blaisdell..... | Horse Shoeing..... | 13 20 |
| | 8623 | Constable Brothers..... | Glass, Lumber and Labor..... | 19 20 |
| | 8624 | Lake City Machine Shop..... | Tools and Labor..... | 20 00 |
| | 8625 | O. C. Thayer & Son..... | Cement, Fire Brick and Clay..... | 21 75 |
| | 8626 | E. J. Riblet..... | Shop Rent..... | 32 58 |
| | 8627 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 47 05 |
| | 8628 | Globe Iron Foundry Co..... | Castings..... | 56 89 |
| | 8629 | Erie Mfg. & Supply Co..... | Valve, Tools, etc..... | 57 00 |
| | 8630 | James L. Firman..... | Teaming..... | 75 00 |
| | 8631 | F. P. Gill..... | Blue Print and Patterns..... | 92 58 |
| | 8632 | The Holly Manufacturing Co..... | Valve Stems and Rubbers..... | 105 50 |
| | 8633 | Skinner Engine Company..... | Cylinder and Pipe..... | 106 55 |
| | 8634 | Erie Oil Works..... | Oil..... | 107 83 |
| | 8635 | R. G. Miller & Co..... | Coal..... | 180 93 |
| | 8636 | Erie Machine Shop..... | Boiler and Engine Repairs..... | 184 62 |
| | 8637 | Hays Manufacturing Co..... | Fittings for Connections..... | |
| | 8638 | R. D. Wood & Co..... | Stop Valves..... | |

SEPTEMBER—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|--|-------------|
| 4 | 8639 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | \$ 489 80 |
| | 8640 | Lyman Felhelm..... | Lumber..... | 5 29 |
| | 8641 | J. M. Dunn..... | Brick..... | 8 25 |
| 11 | 8642 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 482 25 |
| 14 | 8643 | Pennsylvania Company..... | Freight..... | 378 63 |
| 16 | 8644 | Meehan Boiler & Construction Co..... | On Contract Steel Plate Chimney..... | 1,000 00 |
| 18 | 8645 | Pennsylvania Railroad Co..... | Freight..... | 98 32 |
| | 8646 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 6 48 |
| | 8647 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 610 03 |
| | 8648 | A. Evans..... | Stenograph Work..... | 10 00 |
| 22 | 8649 | Erie Heating & Plumbing Co..... | Plumbing..... | 46 16 |
| 25 | 8650 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 6 23 |
| | 8651 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 647 32 |
| | | Total..... | | \$ 7,001 02 |

OCTOBER.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|--|---------|
| 1 | 8652 | Pennsylvania Company..... | Freight..... | \$ 4 00 |
| | 8653 | The Lake Shore & Michigan Southern Ry. Co..... | Freight..... | 90 12 |
| | 8654 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Asst't Secretary... | 720 00 |
| | 8655 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Asst't Secretary... | 866 66 |
| | 8656 | Meehan Boiler and Construction Co..... | On Contract Steel Plate Chimney..... | 800 00 |
| 2 | 8657 | Union Water Meter Co..... | Meter Repairs..... | 1 15 |
| | 8658 | Keystone Rubber Works..... | Packing..... | 1 76 |
| | 8659 | August Jarecki..... | Repairing Clock..... | 2 25 |
| | 8660 | Union Ice Co..... | Ice..... | 2 50 |



GEO. C. GENSHEIMER,
Assistant Secretary,
Since 1884—

OCTOBER—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-----|--|--|---------|
| 8661 | 2 | Henry A. Niemeyer..... | Material at Reservoir..... | \$ 5 00 |
| 8662 | | The Flickinger Roofing and Cornice Co., Ltd..... | Tools and Repairs..... | 5 32 |
| 8663 | | Emil Streuber..... | Leather..... | 5 33 |
| 8664 | | J. N. Blaisdell..... | Horse Shoeing..... | 6 00 |
| 8665 | | Wm. Weber..... | Boiler Repairs..... | 6 30 |
| 8666 | | Althof Bros..... | Lumber, etc..... | 6 36 |
| 8667 | | C. Kessler..... | Brooms and Soap..... | 8 00 |
| 8668 | | South Erie Iron Works..... | Castings..... | 8 55 |
| 8669 | | David Schlosser..... | Lumber..... | 8 98 |
| 8670 | | Conrad J. Brown..... | Hay..... | 10 54 |
| 8671 | | Lyman Felheim..... | Lumber..... | 12 25 |
| 8672 | | Ashby & Vincent..... | Books..... | 13 70 |
| 8673 | | The Cereal Supply Co..... | Oats..... | 14 00 |
| 8674 | | E. J. Riblet..... | Shop Rent..... | 20 00 |
| 8675 | | J. M. Dunn..... | Brick..... | 30 25 |
| 8676 | | Frank Gunnison..... | Legal Service..... | 35 00 |
| 8677 | | The Orient Electrical Co..... | Lamps..... | 42 50 |
| 8678 | | O. C. Thayer & Son..... | Cement and Pipe..... | 44 59 |
| 8679 | | Erie Machine Shop..... | Boiler and Engine Repairs..... | 45 80 |
| 8680 | | Hays Manufacturing Co..... | Fittings for Connections, etc..... | 66 49 |
| 8681 | | Globe Iron Foundry Co..... | Castings..... | 74 29 |
| 8682 | | Erie Mfg. and Supply Co..... | Tools, Packing, etc..... | 96 85 |
| 8683 | | Atlantic Refining Co..... | Oil..... | 121 85 |
| 8684 | | J. E. McCreary..... | Coal..... | 292 35 |
| 8685 | | George Schindwein..... | Harness Repairs..... | 1 15 |
| 8686 | | Mehl & Sapper..... | Hardware and Tools..... | 4 23 |
| 8687 | | Dispatch Printing and Engraving Co., Ltd..... | Printing..... | 27 00 |
| 8688 | | Times-Graphic and Observer Co..... | Printing and Stationery..... | 60 00 |
| 8689 | | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 693 29 |
| 8690 | | Globe Iron Foundry Co..... | Castings..... | 28 00 |

OCTOBER—Continued.
TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|---|----------------|
| 9 | 8691 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | \$ 13 94 |
| | 8692 | F. A. Douglas..... | Office Fixtures..... | 28 33 |
| | 8693 | James L. Firman..... | Teaming..... | 31 70 |
| | 8694 | R. G. Miller & Co..... | Coal..... | 104 26 |
| | 8695 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 703 41 |
| | 8696 | Constable Bros..... | Estimate on Boiler House No. 2..... | 3,794 40 |
| 13 | 8697 | John Kelley..... | Services..... | 80 00 |
| 16 | 8698 | Dominick Flanagan..... | Cement and Sand..... | 4 50 |
| | 8699 | The Lake Shore & Michigan Southern Ry. Co..... | Freight..... | 42 29 |
| | 8700 | Austin Separator Co..... | Separators..... | 170 86 |
| | 8701 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 703 48 |
| 20 | 8702 | John Wahl Commission Co..... | Pig Lead..... | 991 64 |
| 21 | 8703 | Meehan Boiler and Construction Co..... | On Contract Steel Plate Chimney..... | 1,200 00 |
| 23 | 8704 | John W. Tait..... | Blacksmithing..... | 7 00 |
| | 8705 | Adolph Brugger..... | Wooden Plugs..... | 14 95 |
| | 8706 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 18 70 |
| | 8707 | The Lake Shore & Michigan Southern Ry. Co..... | Freight..... | 78 49 |
| | 8708 | Joseph Dudenhoefer..... | Estimate for Setting Boilers..... | 687 50 |
| | 8709 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 699 14 |
| | 8710 | Constable Bros..... | Estimate on Boiler House No. 2..... | 2,276 64 |
| 30 | 8711 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 13 60 |
| | 8712 | D. P. Murphy..... | Mason Work..... | 25 30 |
| | 8713 | T. W. Shacklett..... | Services as Commissioner..... | 150 00 |
| | 8714 | William Hardwick..... | Services as Commissioner..... | 150 00 |
| | 8715 | Clark Olds..... | Services as Commissioner..... | 150 00 |
| | 8716 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary..... | 640 00 |
| | 8717 | Joseph Dudenhoefer..... | Estimate for Setting Boilers..... | 687 50 |
| | 8718 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 734 07 |
| | 8719 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Ass't Secretary..... | 866 66 |
| Total..... | | | | \$19,350 77 |

NOVEMBER.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-----|--|----------------------------------|---------|
| 8720 | 6 | Keystone Brass Co. | Meter Repairs. | \$ 1 48 |
| 8721 | | Wm. F. Nick & Son. | Oil. | 1 75 |
| 8722 | | Lake Shore Rubber Co. | Packing. | 2 40 |
| 8723 | | Schultz Bros. | Rolling Oats. | 2 50 |
| 8724 | | The Flickinger Roofing & Cornice Co., Ltd. | Tin and Screws. | 2 60 |
| 8725 | | Keystone Electric Company | Repairs to Dynamo. | 3 00 |
| 8726 | | Thomson Meter Co. | Meter Repairs. | 3 00 |
| 8727 | | Henry Beckman & Son. | Grass Seed, etc. | 3 70 |
| 8728 | | The Erie Window Glass Co. | Glass. | 3 84 |
| 8729 | | Moore, Winschel & Co. | Door Mats. | 4 00 |
| 8730 | | C. Kessler. | Mops, Soap and Wicking. | 4 25 |
| 8731 | | Lyman Felhelm. | Meter Box, etc. | 4 40 |
| 8732 | | The Dispatch Publishing Co. | Advertising. | 4 80 |
| 8733 | | Henry J. Sevin. | Mounting Map and Frame. | 5 00 |
| 8734 | | Times Publishing Company. | Advertising. | 5 25 |
| 8735 | | Held, Gorenflo & Co. | Advertising. | 5 50 |
| 8736 | | Herald Printing & Publishing Co. | Advertising and Stationery. | 6 75 |
| 8737 | | Standard Brick Works. | Brick. | 7 00 |
| 8738 | | J. N. Blaisdell. | Horse Shoeing and Wagon Repairs. | 7 00 |
| 8739 | | National Meter Company. | Meter Repairs. | 8 25 |
| 8740 | | Atlantic Refining Co. | Oil. | 8 40 |
| 8741 | | Hollands Mfg. Co. | Tools. | 8 87 |
| 8742 | | David Schlosser. | Lumber. | 9 52 |
| 8743 | | Jarecki Manufacturing Co. | Tools and Fittings. | 10 75 |
| 8744 | | Wm. Densmore & Co. | Oats. | 15 00 |
| 8745 | | E. J. Riblet. | Shop Rent. | 20 00 |
| 8746 | | Union Ice Company. | Ice. | 23 27 |
| 8747 | | — Void — | Not used. | 00 00 |
| 8748 | | J. M. Dunn. | Brick. | 38 50 |
| 8749 | | O. C. Thayer & Son. | Cement, Clay and Tile. | 47 95 |
| 8750 | | J. L. Firman. | Teaming. | 55 16 |
| 8751 | | N. Y. & Penn'a Telephone & Telegraph Co. | Telephone Rental. | 56 25 |

NOVEMBER—Continued.

TO PAY VOUCHER

| Date. | No. | Of | For | Amount. |
|-------|------|---|---|-------------|
| 6 | 8752 | Erie Machine Shop..... | Boiler and Engine Repairs..... | \$ 78 75 |
| | 8753 | The Fairbanks Company..... | Inspirator..... | 90 00 |
| | 8754 | Erie Oil Works..... | Oil..... | 93 05 |
| | 8755 | Ashby & Vincent..... | Books and Stationery..... | 114 50 |
| | 8756 | Union Water Meter Company..... | Meters..... | 120 00 |
| | 8757 | Jenkins Bros..... | Valves, Globe and Check..... | 150 40 |
| | 8758 | Erie Mfg. & Supply Co..... | Tools, Packing, etc..... | 274 62 |
| | 8759 | R. D. Wood & Co..... | Valves and Fire Hydrants..... | 466 21 |
| | 8760 | Globe Iron Foundry Co..... | Castings..... | 519 88 |
| | 8761 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 34 48 |
| | 8762 | Hays Manufacturing Co..... | Fittings for Connections..... | 73 01 |
| | 8763 | Lyman Felheim..... | Lumber..... | 193 68 |
| | 8764 | Robert T. Walker..... | Rent of Barn..... | 30 00 |
| | 8765 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 674 94 |
| | 8766 | Board of Commissioners of the Sinking Fund..... | The Sinking Fund..... | 7,500 00 |
| 13 | 8767 | John W. Tait..... | Blacksmithing..... | 8 35 |
| | 8768 | James Blass..... | Teaming..... | 9 30 |
| | 8769 | Pennsylvania Company..... | Freight..... | 16 65 |
| | 8770 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 630 94 |
| 20 | 8771 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 726 86 |
| | 8772 | David F. Snell..... | Services..... | 45 00 |
| | 8773 | Pennsylvania Company..... | Freight..... | 13 45 |
| 24 | 8774 | Joseph Dudenhoefer..... | Estimate for Setting Boilers..... | 1,473 55 |
| 27 | 8775 | B. Arnold..... | Labor..... | 19 35 |
| | 8776 | Austin Separator Co..... | Separator..... | 58 59 |
| | 8777 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 67 45 |
| | 8778 | Wm. Schade..... | Work on Boilers and Engines..... | 79 17 |
| | 8779 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 513 51 |
| | 8780 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Ass't Sec'y..... | 665 00 |
| 30 | 8781 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Ass't Sec'y..... | 866 66 |
| | | Total..... | | \$15,951 49 |

DECEMBER.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-----|--|--|---------|
| 8782 | 4 | A. S. Pinney..... | Hardware and Tools..... | 1 90 |
| 8783 | | Thomson Meter Co..... | Repairing Meter..... | 2 50 |
| 8784 | | The Flickinger Roofing and Cornice Co., Ltd..... | Repairing Lanterns..... | 3 48 |
| 8785 | | Lake City Machine Shop..... | Repairing Tools..... | 4 80 |
| 8786 | | Hollands Manufacturing Co..... | Tools..... | 5 65 |
| 8787 | | Ashby & Vincent..... | Books and Stationery..... | 8 35 |
| 8788 | | Conrad J. Brown..... | Hay..... | 9 25 |
| 8789 | | Fries & Co..... | Cups..... | 10 80 |
| 8790 | | J. N. Blaisdell..... | Horse Shoeing and Wagon Repairs..... | 11 50 |
| 8791 | | Franklin Coal Co..... | Coal..... | 11 50 |
| 8792 | | Union Ice Co..... | Ice..... | 12 75 |
| 8793 | | Wm. Densmore & Co..... | Oats..... | 15 00 |
| 8794 | | James L. Firman..... | Teaming..... | 18 62 |
| 8795 | | The Lake Shore & Michigan Southern Ry. Co..... | Freight..... | 18 64 |
| 8796 | | E. J. Riblet..... | Shop Rent..... | 20 00 |
| 8797 | | O. C. Thayer & Son..... | Cement and Tile..... | 25 48 |
| 8798 | | David Schlosser..... | Lumber..... | 26 48 |
| 8799 | | Union Water Meter Co..... | Repairing Meter..... | 27 25 |
| 8800 | | J. M. Dunn..... | Brick..... | 51 70 |
| 8801 | | Momeyer & Graf..... | Coke and Wood..... | 52 29 |
| 8802 | | Pennsylvania Company..... | Repairing Railroad Switch..... | 52 29 |
| 8803 | | South Erie Iron Works..... | Castings..... | 83 16 |
| 8804 | | Erie Machine Shop..... | Repairs to Boilers and Engine..... | 71 77 |
| 8805 | | John Coates..... | Castings, Shafting, etc..... | 91 66 |
| 8806 | | Atlantic Refining Co..... | Oil..... | 119 49 |
| 8807 | | Globe Iron Foundry Co..... | Castings..... | 172 55 |
| 8808 | | Erie Mfg. and Supply Co..... | Gaskets, Packing, Valves, etc..... | 220 48 |
| 8809 | | Hays Manufacturing Co..... | Fittings for Connections..... | 238 00 |
| 8810 | | Youghleny River Coal Company..... | Coal..... | 365 69 |
| 8811 | | Crane Company..... | Valves..... | 435 35 |
| 8812 | | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 460 52 |
| 8813 | | Globe Iron Foundry Co..... | Castings..... | 459 02 |

DECEMBER—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|--|-----------|
| 11 | 8814 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | \$ 424 77 |
| 18 | 8815 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 17 73 |
| | 8816 | Chas. B. Coates..... | Electric Lights..... | 32 53 |
| | 8817 | T. W. Shacklett..... | Services as Commissioner..... | 150 00 |
| | 8818 | William Hardwick..... | Services as Commissioner..... | 150 00 |
| | 8819 | Clark Olds..... | Services as Commissioner..... | 150 00 |
| | 8820 | Chas. S. Clarke, P. M..... | Postage Stamps..... | 100 00 |
| | 8821 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 392 94 |
| | 8822 | Pay Roll—Pumping Station..... | Disbursed by Geo. C. Gensheimer, Asst Secretary..... | 665 00 |
| | 8823 | Pay Roll—Office and Inspectors..... | Disbursed by Geo. C. Gensheimer, Asst Secretary..... | 866 74 |
| | 8824 | Constable Bros..... | Estimate on Boiler House No. 2..... | 1,011 84 |
| | 8825 | D. P. Murphy..... | Mason Work..... | 90 00 |
| 22 | 8826 | Sullivan & McMahon..... | Rope..... | 21 45 |
| 24 | 8827 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 287 23 |
| 29 | 8828 | Hollands Mfg. Co..... | Tools..... | 1 34 |
| | 8829 | Atlantic Refining Co..... | Oil..... | 2 16 |
| | 8830 | The Flickinger Roofing and Cornice Co., Ltd..... | Iron and Labor..... | 2 42 |
| | 8831 | Henry Beckman & Son..... | Rope, Etc..... | 2 53 |
| | 8832 | G. J. Gebhardt..... | Coke and Wood..... | 2 55 |
| | 8833 | F. S. Chambers..... | Horse Blankets..... | 3 00 |
| | 8834 | A. S. Pinney..... | Hardware..... | 3 98 |
| | 8835 | Times Publishing Co..... | Printing..... | 4 60 |
| | 8836 | Moneyer & Graf..... | Coke and Wood..... | 4 80 |
| | 8837 | Globe Iron Foundry Co..... | Castings..... | 5 78 |
| | 8838 | J. N. Blaisdell..... | Horse Shoeing..... | 9 60 |
| | 8839 | F. Dudenhoefer & Co..... | Brick..... | 12 10 |
| | 8840 | C. Kessler..... | Soap, Wicking, Tallow..... | 12 57 |
| | 8841 | Wm. Denmore & Co..... | Oats..... | 15 00 |
| | 8842 | Hays Manufacturing Co..... | Pipe and Fittings..... | 19 03 |
| | 8843 | Henry Mayer..... | Repairs to Asphalt Pavement..... | 23 73 |
| | 8844 | Erle Machine Shop..... | Repairs to Boilers, etc..... | 24 89 |
| | 8845 | Erle City Fertilizer Works..... | Bone Dust..... | 30 00 |

DECEMBER—Continued.
TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|--|--------------------|
| 29 | 8846 | Meehan Boiler and Construction Co. | Painting..... | \$ 53 31 |
| | 8847 | Henry R. Worthington..... | Pipe Sleeve..... | 53 75 |
| | 8848 | Erie Mfg. and Supply Co..... | Gaskets, Valves, Tools..... | 77 62 |
| | 8849 | Wm. Schade..... | Labor and Material on Boilers..... | 79 47 |
| | 8850 | R. D. Wood & Co..... | Valve..... | 90 00 |
| | 8851 | Erie Oil Works..... | Oil..... | 101 88 |
| | 8852 | J. O. Baker..... | Labor, etc., on Coal Bins..... | 107 06 |
| | 8853 | Jarecki Manufacturing Co..... | Labor and Material for Boilers..... | 1,404 17 |
| | 8854 | Lake Shore Foundry..... | Pipe..... | 2,376 65 |
| | 8855 | O. C. Thayer & Son..... | Cement and Lime..... | 27 40 |
| 31 | 8856 | Pay Roll—Street Work..... | Disbursed by M. L. Whitley, Clerk..... | 249 29 |
| | 8857 | Pennsylvania Company..... | Freight..... | 229 97 |
| | 8858 | Geo. C. Gensheimer, Assistant Secretary..... | Sundries..... | 11 83 |
| | | Total..... | | \$12,528 84 |

RECAPITULATION, 1897.

| <i>No. Vouchers.</i> | <i>Month.</i> | <i>Amount.</i> |
|----------------------|-------------------|---------------------|
| 44 | January..... | \$ 14,781 51 |
| 47 | February..... | 3,688 92 |
| 27 | March..... | 2,991 86 |
| 49 | April..... | 3,234 31 |
| 56 | May..... | 10,727 46 |
| 52 | June..... | 14,473 12 |
| 52 | July..... | 10,777 00 |
| 55 | August..... | 9,571 48 |
| 43 | September..... | 7,001 02 |
| 68 | October..... | 19,350 77 |
| 61 | November..... | 15,951 49 |
| 77 | December..... | 12,528 84 |
| 631 | Total..... | \$125,077 78 |

DISBURSEMENTS.

| DEPARTMENT. | ACCOUNT. | FOR THE YEAR 1897. | | | From Beginning of Works to December 31, 1897. |
|---------------|---|--------------------|-----------|-----------|---|
| | | Labor. | Material. | Total. | |
| Construction. | Ad., Books, Stationery and Printing..... | a \$ 80 75 | \$ 96 34 | \$ 177 09 | 470 35 |
| | Boilers..... | a..... | ..... | ..... | 3,364 13 |
| | Boiler No. 7..... | f 132 48 | 888 68 | 1,021 16 | 1,026 02 |
| | " " 8..... | f 132 49 | 888 69 | 1,021 18 | 1,026 03 |
| | " " 9..... | f 132 45 | 888 74 | 1,021 19 | 1,026 04 |
| | " " 10..... | f 132 45 | 888 74 | 1,021 19 | 1,026 04 |
| | " " 11..... | f 131 71 | 862 95 | 994 66 | 999 51 |
| | " " 12..... | f 131 71 | 862 97 | 994 68 | 999 53 |
| | " " 13..... | f 131 69 | 862 96 | 994 65 | 999 49 |
| | " " 14..... | f 131 70 | 862 97 | 994 67 | 999 51 |
| | Boiler House, No. 2..... | f 1,498 32 | 11,989 10 | 13,487 42 | 13,487 42 |
| | Buildings and Grounds..... | f 700 31 | 169 47 | 869 78 | 87,750 56 |
| | Civil Engineering..... | ..... | ..... | ..... | 8,554 80 |
| | Connections..... | ..... | ..... | ..... | 116,369 13 |
| | Drinking Fountains..... | d 2,394 01 | 1,303 07 | 3,757 08 | 1,577 08 |
| | Electric Light Plant..... | d 68 43 | 216 78 | 285 21 | 756 67 |
| | Engines and Boilers to January 1, 1891..... | a 90 | 32 79 | 33 69 | 93,336 61 |
| | Engines..... | a..... | ..... | ..... | 15 05 |
| | Engine No. 4..... | b..... | ..... | ..... | 48,353 18 |
| | " " House No. 3..... | b..... | ..... | ..... | 21,401 94 |
| | Engine Room Furniture and Fixtures..... | ..... | ..... | ..... | 1,398 86 |
| | Expense..... | a 29 46 | 1 00 | 30 46 | 371 41 |
| | Fire Hydrants..... | a 81 16 | 192 74 | 273 90 | 26,581 19 |
| | Fuel..... | a 69 | 25 00 | 25 69 | 202 93 |
| | Gas Well..... | ..... | ..... | ..... | 8,148 59 |

WATER WORKS, IN THE CITY OF ERIE.

53

| Construction. | | 62 27 | 207 61 | 269 88 | 4,682 52 |
|--|-----|----------|-----------|-----------|-------------|
| Horse, Wagon and Cartage..... | | | | | 49,474 39 |
| Intake Pipe No. 1..... | b | 5,815 33 | 156 38 | 5,971 71 | 140,966 25✓ |
| " " 2..... | | | | | 99,420 95 |
| Interest and Discount..... | | | | | 208 70 |
| Light, Oil, Lamps, Wicks, Etc..... | a | 95 | 34 57 | 35 52 | 1,588 85 |
| Lowering Mains..... | | 749 14 | | 749 14 | 539,269 87 |
| Mains and Branches..... | | 8,334 93 | 14,074 17 | 22,409 10 | 75,955 61 |
| Main, 30-inch..... | | | | | 18,819 04 |
| Meters..... | | 354 38 | 1,056 27 | 1,410 65 | |
| New Boiler Equipment..... | * f | | | | |
| Office Furniture and Fixtures..... | a | 14 | 5 04 | 5 18 | 1,074 03 |
| Oil and Tallow..... | b | 17 | 6 29 | 6 46 | 15 96 |
| Paving and Street Repairs..... | b | | | | 4 07 |
| Park Fountains..... | | | | | 3,244 68 |
| Railroad Switch and Scales..... | | | | | 2,918 92 |
| Reservoir..... | | | | | 123,150 83 |
| Shop Rent..... | a | 3 32 | 120 96 | 124 28 | 788 76 |
| Steel Plate Chimney No. 1..... | g | 100 35 | 3,113 74 | 3,214 09 | 3,214 09 |
| Stop Valves..... | | 200 56 | 1,075 54 | 1,276 10 | 34,523 55 |
| Superintendent's Expense..... | a | | | | 52 82 |
| " Stores..... | | | | | 217 05 |
| Telephone and Telegraph..... | a | 15 | 5 38 | 5 53 | 18 32 |
| Tools and Repairs..... | | 161 86 | 103 24 | 265 10 | 4,969 11 |
| Waste and Packing..... | g | 14 | 5 06 | 5 20 | 5 20 |
| Water Lots..... | e | 165 33 | 35 28 | 200 61 | 15,834 66 |
| Ad., Books, Stationery and Printing..... | a | 78 18 | 3 86 | 82 04 | 324 66 |
| Boilers to January 1, 1893..... | | | | | 18,365 28 |
| Boiler No. 1..... | c | 64 27 | 128 53 | 192 80 | 1,033 74 |
| " 2..... | c | 74 52 | 186 57 | 261 09 | 973 95 |
| " 3..... | c | 68 66 | 229 24 | 297 90 | 1,367 70 |

* This account discontinued in 1897, and the amount distributed, PRO-RATA, to Boilers Nos. 7 to 14, inclusive.

a Accounts started in 1891. / Accounts started in 1896.

b Accounts started in 1892. g Accounts started in 1897.

c Accounts started in 1893.

Maintenance.

DISBURSEMENTS—Continued.

| DEPARTMENT. | ACCOUNT. | FOR THE YEAR 1897. | | | From Beginning of Works to December 31, 1897. |
|--------------|---|--------------------|-----------|-----------|---|
| | | Labor. | Material. | Total. | |
| Maintenance. | Boiler No. 4..... | c \$ 58 77 | \$ 133 64 | \$ 192 41 | \$ 1,081 09 |
| | " " 5..... | c 47 83 | 79 30 | 127 13 | 707 40 |
| | " " 6..... | c 32 76 | 51 51 | 84 27 | 542 30 |
| | Boiler House No. 1..... | c 37 | 13 43 | 13 80 | 538 17 |
| | Buildings and Grounds..... | a 415 48 | 134 82 | 550 30 | 7,751 78 |
| | Connections..... | a 1,324 76 | 213 30 | 1,538 06 | 11,292 28 |
| | Drinking Fountains..... | d 39 01 | 29 20 | 68 21 | 145 21 |
| | Electric Light Plant..... | b 1 19 | 43 36 | 44 55 | 315 85 |
| | Engines to January 1, 1893..... | | | | 13,462 04 |
| | Engine No. 1..... | c..... | | | 115 53 |
| | " " 2..... | c 46 23 | 46 28 | 92 51 | 402 60 |
| | " " 3..... | c 5 95 | 158 16 | 164 11 | 650 79 |
| | " " 4..... | d 81 67 | 444 37 | 526 04 | 1,945 94 |
| | Engine House No. 1..... | c 47 | 17 24 | 17 71 | 1,021 67 |
| | " " 2..... | c 3 17 | 20 44 | 23 61 | 1,322 25 |
| | " " 3..... | c 76 07 | 84 22 | 160 29 | 878 54 |
| | Engineer's Stores..... | b..... | | | 1 05 |
| | Engine Room Furniture and Fixtures..... | a 34 | 12 35 | 12 69 | 190 96 |
| | Expense..... | a 29 45 | 1 01 | 30 46 | 349 06 |
| | Fire Hydrants..... | a 290 23 | 107 06 | 397 29 | 2,454 06 |
| | Fuel..... | a 69 | 25 00 | 25 69 | 100 02 |
| | Horse, Wagon and Cartage..... | a 64 25 | 207 79 | 272 04 | 4,695 76 |
| | Intake Pipe No. 1..... | a..... | | | 146 11 |
| | Light, Oil, Lamps, Wicks, Etc..... | a 69 | 25 06 | 25 75 | 128 07 |
| | Mains and Branches..... | a 722 90 | 241 84 | 964 74 | 20,360 52 |

WATER WORKS, IN THE CITY OF ERIE.

55

Maintenance.

| | | | | | |
|--|---|----------|----------|----------|------------|
| Main, 30-Inch..... | a | 170 16 | 289 44 | ..... | 899 33 |
| Meters..... | a | 2 57 | 93 44 | 459 60 | 5,388 43 |
| Office Furniture and Fixtures..... | b | 20 | 6 99 | 96 01 | 380 44 |
| Oil and Tallow..... | a | ..... | ..... | 7 19 | 20 92 |
| Paving and Street Repairs..... | a | 24 18 | 59 07 | 83 25 | 449 94 |
| Railroad Switch and Scales..... | a | 5,603 28 | 4,303 17 | 9,906 45 | 699 59 |
| Reservoir..... | a | 3 32 | 120 96 | 124 28 | 35,022 64 |
| Shop Rent..... | c | 3 46 | 10 | 3 56 | 788 52 |
| Stand Pipe..... | a | 300 89 | 18 23 | 319 12 | 3,825 10 |
| Stop Valves..... | a | ..... | ..... | ..... | 5 379 90 |
| Superintendent's Expense..... | a | ..... | ..... | ..... | 52 56 |
| " Stores..... | b | 183 59 | 320 61 | 504 20 | 396 52 |
| Tools and Repairs..... | b | 14 | 5 05 | 5 19 | 5,649 71 |
| Waste and Packing..... | a | 81 21 | 114 16 | 195 37 | 41 33 |
| Ad., Books, Stationery and Printing..... | b | 1,640 06 | 31 87 | 1,671 93 | 1,175 64 |
| Buildings and Grounds..... | g | 51 37 | ..... | 51 37 | 6,666 89 |
| Drinking Fountains..... | b | 6,432 46 | ..... | 6,432 46 | 51 37 |
| Engineers and Firemen..... | b | ..... | ..... | ..... | 130,578 27 |
| Engineers' Stores..... | b | ..... | ..... | ..... | 2,348 57 |
| Electric Light Plant..... | a | 5 48 | 29 12 | 34 60 | 34 88 |
| Expense..... | b | 406 88 | ..... | 406 88 | 1,060 25 |
| Fire Hydrants..... | g | 9 61 | ..... | 9 61 | 599 25 |
| Flushing Sewers..... | d | 142 66 | 5,196 12 | 5,338 78 | 9 61 |
| Fuel..... | c | 2,562 67 | ..... | ..... | 163,342 60 |
| Horse, Wagon and Cartage..... | a | 4 70 | 171 37 | 2,562 67 | 54 81 |
| Inspectors..... | a | 1 94 | 70 68 | 176 07 | 11,873 34 |
| Insurance..... | b | 394 77 | ..... | 72 62 | 1,528 03 |
| Light, Oil, Lamps, Wicks, Etc..... | b | 37 60 | 1,369 31 | 394 77 | 414 36 |
| Meters..... | b | ..... | ..... | 1,406 91 | 3,208 55 |
| Oil and Tallow..... | b | ..... | ..... | ..... | 14,067 53 |

g Accounts started in 1897.

a Accounts started in 1891.

c Accounts started in 1893.

d Accounts started in 1894.

b Accounts started in 1892.

REPORT OF THE COMMISSIONERS OF

DISBURSEMENTS—Continued.

| DEPARTMENT. | ACCOUNT. | FOR THE YEAR 1897. | | | From Beginning of Works to December 31, 1897. |
|-------------|---|--------------------|-------------|--------------|---|
| | | Labor. | Material. | Total. | |
| Operating. | Rent of Office..... | <i>b</i> \$ 01 | \$ 15 | \$ 16 | \$ 601 09 |
| | Reservoir..... | <i>b</i> 493 18 | ..... | 493 18 | 2,798 25 |
| | Stop Valves..... | <i>c</i> 125 49 | ..... | 125 49 | 358 72 |
| | Taxes—State, County and School..... | <i>c</i> 7 72 | 280 99 | 288 71 | 2,118 41 |
| | Telegraph and Telephone..... | <i>a</i> 6 29 | 229 12 | 235 41 | 1,223 65 |
| | Tools and Repairs..... | <i>a</i> 4 10 | 149 22 | 153 32 | 646 48 |
| | Turning on and off Water..... | <i>a</i> 265 10 | ..... | 265 10 | 205 10 |
| | Waste and Packing..... | <i>a</i> 14 25 | 519 03 | 533 28 | 6,259 45 |
| | Water Rent returned..... | 30 | 10 87 | 11 17 | 1,077 65 |
| | Ad., Books, Stationery and Printing | 12 90 | 469 99 | 482 89 | 9,779 12 |
| Accounting. | Expense..... | 1 16 | 21 08 | 22 24 | 14,808 63 |
| | Horse, Wagon and Cartage..... | <i>b</i> ..... | ..... | ..... | 17 30 |
| | Postage..... | 10 01 | 364 66 | 374 67 | 6,245 74 |
| Sundries. | Salaries..... | 7,470 63 | ..... | 7,470 63 | 183,445 38 |
| | City of Erie, Board of Com. of the Sinking Fund | ..... | 15,000 00 | 15,000 00 | 120,500 00 |
| Legal. | City of Erie, Pa..... | <i>a</i> | 5 90 | 5 90 | 12 31 |
| | Court Costs..... | ..... | ..... | ..... | 478 40 |
| | Counsel Fees..... | 235 00 | ..... | 235 00 | 3,493 53 |
| Legal. | Expense..... | <i>a</i> ..... | ..... | ..... | 189 02 |
| | Totals..... | \$52 096 98 | \$72,980 80 | \$125,077 78 | \$2,403,653 59 |

a Accounts started in 1891.*b* Accounts started in 1892.*c* Accounts started in 1895.*d* Accounts started in 1897.

RECAPITULATION.

| DEPARTMENT. | FOR THE YEAR 1897. | | | | From Beginning of Works to Dec. 31, 1897. |
|-------------------|--------------------|-------------|-------------|--------------|--|
| | Pro-Rata. | Labor. | Material. | Total. | |
| Construction..... | .50330482+ | \$21,859 73 | \$41 092 52 | \$62,952 25 | \$1,560,660 30 |
| Maintenance..... | .14130079+ | 9,819 70 | 7 854 64 | 17,674 34 | 151,659 31 |
| Operating..... | .16677510+ | 12,687 85 | 8,172 01 | 20,859 86 | 352,364 55 |
| Accounting..... | .06676189+ | 7,494 70 | 855 73 | 8,359 43 | 214,296 17 |
| Sundries..... | .11997254+ | ..... | 15,005 90 | 15,005 90 | 120 512 31 |
| Legal..... | .00187883+ | 235 00 | ..... | 235 00 | 4,160 95 |
| Totals..... | .99999997+ | \$52,096 98 | \$72 980 80 | \$125,077 78 | \$2,403,653 59 |

BALANCE SHEET—INDIVIDUAL LEDGERS. **ASSESSED ACCOUNTS.**

1897.

1897.

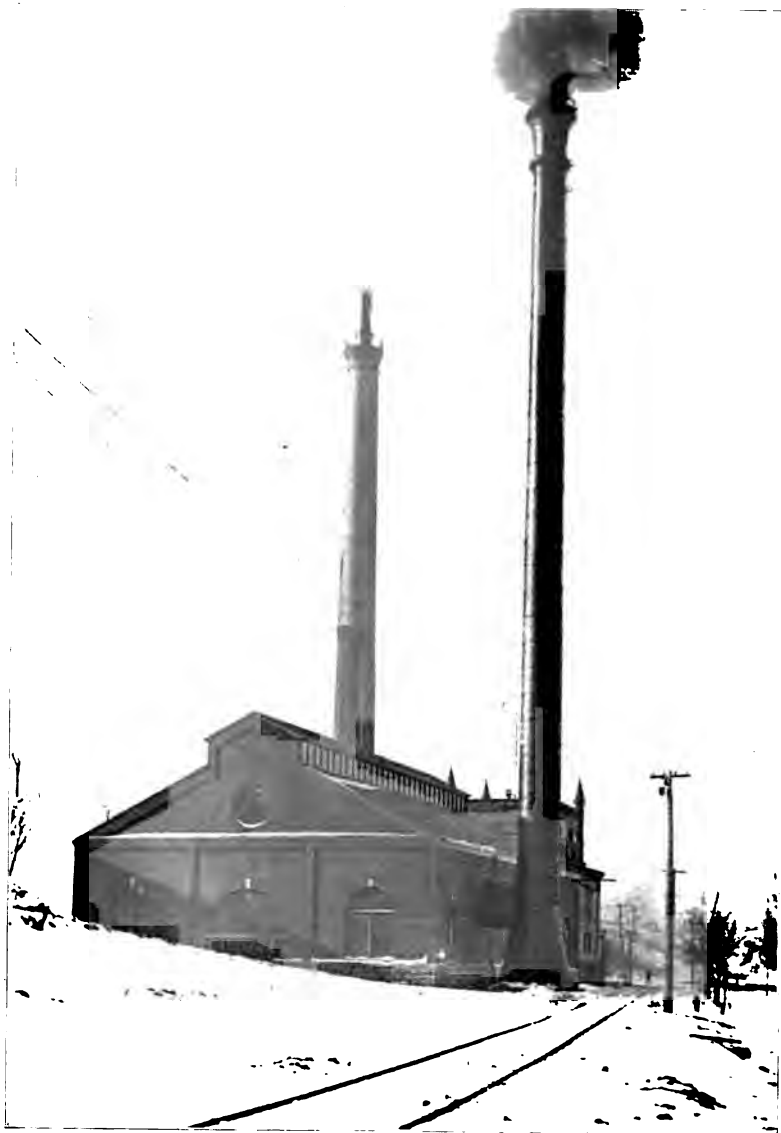
| Ward. | Balance from Dec. 31, 1896. | Assessments. | Additions. | Penalties. | Balance to Jan. 1, 1898. | Total. | Balance from Dec. 31, 1896. | Deductions. | Cash. | Balance to Jan. 1, 1898. |
|--------------|--------------------------------|--------------|------------|------------|-----------------------------|--------------|--------------------------------|-------------|-------------|-----------------------------|
| First..... | \$ 60 19 | \$13,316 43 | \$ 656 56 | \$ 86 49 | \$ 43 34 | \$ 14,163 01 | \$ 23 47 | \$ 784 02 | \$13,260 20 | \$ 95 32 |
| Second..... | 101 25 | 21,548 90 | 1,050 74 | 80 83 | 62 04 | 22,844 36 | 29 80 | 978 16 | 21,735 34 | 101 06 |
| Third..... | 60 64 | 23,935 68 | 1,048 64 | 92 98 | 75 25 | 25,213 19 | 44 21 | 1,217 41 | 23,885 63 | 65 04 |
| Fourth..... | 42 01 | 19,235 81 | 697 34 | 78 73 | 55 39 | 20,109 28 | 43 40 | 1,265 60 | 18,616 82 | 183 46 |
| Fifth..... | 58 27 | 8,945 79 | 466 73 | 53 79 | 26 91 | 9,551 49 | 12 59 | 533 31 | 8,945 06 | 60 53 |
| Sixth..... | 37 27 | 10,888 98 | 513 80 | 54 33 | 17 73 | 11,512 11 | 11 70 | 518 70 | 10,915 72 | 65 09 |
| Seventh..... | 7 64 | 739 01 | 191 64 | 1 97 | 12 | 940 38 | 26 17 | 164 08 | 742 27 | 7 86 |
| Total... | \$367 27 | \$98,610 60 | \$4,625 45 | \$449 12 | \$281 38 | \$104,333 82 | \$191 34 | \$5,461 28 | \$98,101 04 | \$580 16 |

METER ACCOUNTS.

| | | | | | | | | | | |
|--------------|------------|-------------|--|---------|--|-------------|--|---------|-------------|------------|
| First..... | \$ 980 12 | \$ 4,246 47 | | \$ 1 07 | | \$ 5,227 66 | | \$16 37 | \$ 4,232 93 | \$ 958 36 |
| Second..... | 3,143 51 | 12,677 93 | | 63 34 | | 15,884 78 | | 22 35 | 11,825 27 | 4,037 16 |
| Third..... | 873 05 | 3,619 92 | | 4 71 | | 4,497 68 | | 3 79 | 3,464 02 | 1,039 87 |
| Fourth..... | 315 61 | 1,154 52 | | 1 18 | | 1,471 31 | | 5 39 | 1,140 65 | 325 27 |
| Fifth..... | 630 00 | 3,248 98 | | 3 23 | | 3,882 21 | | 4 77 | 3,001 19 | 786 25 |
| Sixth..... | 199 22 | 1,018 73 | | 1 18 | | 1,219 13 | | | 949 82 | 269 31 |
| Seventh..... | 41 81 | 318 71 | | 75 | | 361 27 | | 20 31 | 249 79 | 91 17 |
| Total... | \$6,183 32 | \$26,285 26 | | \$75 46 | | \$32,544 04 | | \$72 98 | \$24,973 67 | \$7,497 39 |

SPECIAL PERMITS.

| | | | | | | | | | | |
|--------------|--|----------|--|--|--|----------|--|--|----------|--|
| First..... | | \$ 55 34 | | | | \$ 55 34 | | | \$ 55 34 | |
| Second..... | | 25 10 | | | | 25 10 | | | 25 10 | |
| Third..... | | 50 10 | | | | 50 10 | | | 50 10 | |
| Fourth..... | | 10 92 | | | | 10 92 | | | 10 92 | |
| Fifth..... | | 25 50 | | | | 25 50 | | | 25 50 | |
| Sixth..... | | 26 75 | | | | 26 75 | | | 26 75 | |
| Seventh..... | | | | | | | | | | |
| Total... | | \$193 71 | | | | \$193 71 | | | \$193 71 | |



NEW BOILER HOUSE, AND SELF-SUSTAINING STEEL PLATE CHIMNEY.

1897. STATEMENT OF ACCOUNT WITH THE CITY OF ERIE, PENNA. 1897.

CITY OF ERIE, PENNA.—Dr.

CASH—Paid Board of Commissioners of the Sinking Fund

INTEREST—On balances in Second National Bank, from October 1, 1896, to April 1, 1897

From April 1, 1897, to October 1, 1897.....

On payments to Board of Commissioners of the Sinking Fund, June 19, 1897, to Dec.

31, 1897.....on

Nov. 6, 1897, to Dec. 31, 1897.....on

WATER—City Hall.....

Engine Houses.....

Fire Hydrants.....

Flushing Sewers.....

Fountains—Drinking.....

" —Park.....

Parks—Central—East.....

" " —West.....

" —Lake Side—East.....

" " —West.....

Sprinkling Streets, by Sup't of Streets.....

Balance.....

CREDITS.

BALANCE—December 31, 1896.....

INTEREST—On same to December 31, 1897.....

RENT—Of offices one year.....

Balance due the City of Erie, Penna., Dec. 31, 1897.....

15,000 00

136.51

107 62

266 76

374 38

207 13

278 30

187 10

28,765 00

305 00

1,385 44

134 39

1,251 05

100 00

17 90

72 00

89 90

189 90

5 04

31,115 78

46,697 29

654,740 48

701,437 77

673 305 55

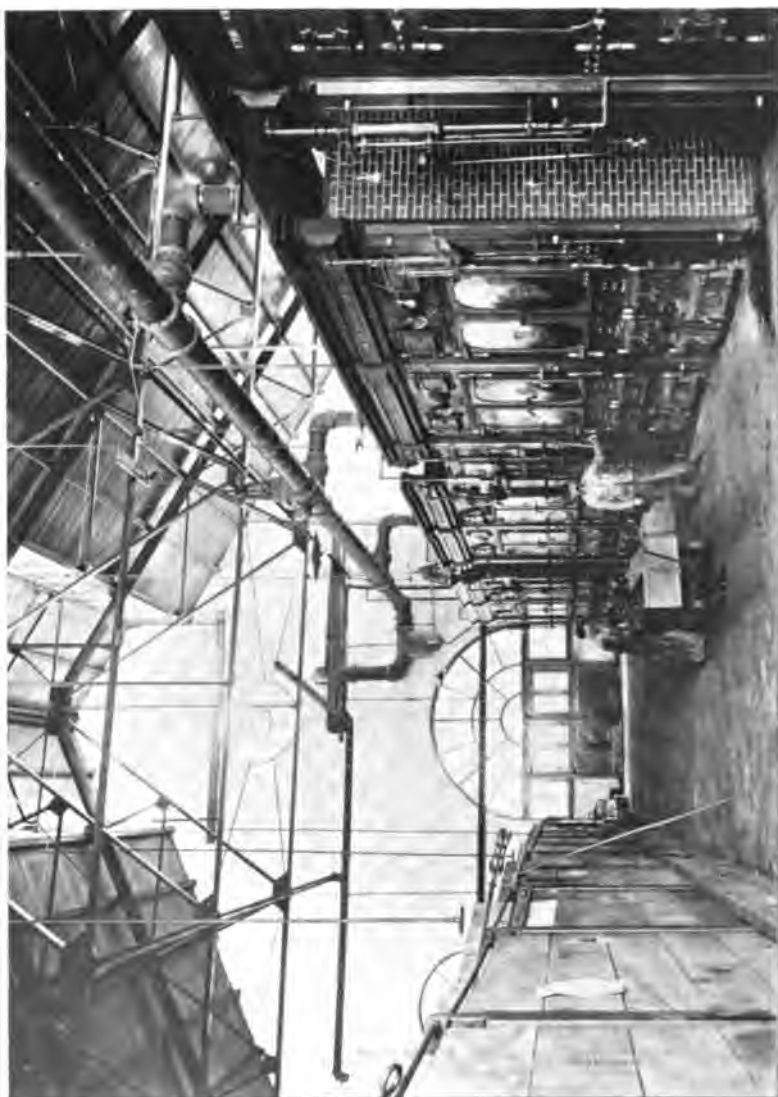
26,932 22

1,200 00

701,437 77

\$654,740 48

Interest Oct 1, 1897. to April 1, 1898 126.80
Apr 1, 1898 to Oct 1, 1898 136.47 263.27



INTERIOR VIEW.—NEW BOILER HOUSE.

1897. STATEMENT OF RESOURCES AND LIABILITIES DECEMBER 31st. 1897.

| | | |
|--|------------|--------------|
| RESOURCES: | | |
| PLANT NORTH OF FRONT STREET— | | |
| Buildings and Grounds, including Piers to Intake No. 1. | | |
| Boiler House No. 2, from January 1, 1897..... | 106,903 44 | |
| Engine House No. 3, from January 1, 1892..... | 13,603 90 | |
| Boilers, from January 1, 1891..... | 21,591 35 | 142,188 69 |
| Boilers Nos. 7 to 14 inclusive, from January 1, 1896.....* | 3,409 15 | |
| New Boiler Equipment..... | 8,226 00 | |
| Engines and Boilers to January 1, 1891..... | | |
| Engine No. 4 from January 1, 1892..... | 104,325 20 | |
| Electric Light Plant..... | 49,058 00 | 165,018 35 |
| Engine Room Furniture and Fixtures..... | | 766 90 |
| Intake Pipes—No. 1..... | | 1,549 20 |
| “ —No. 2, from January 1, 1892..... | 55,568 44 | |
| Railroad Switch and Scales..... | 143,826 35 | 199,394 79 |
| Steel Plate Chimney No. 1, from January 1, 1897..... | | 3,262 09 |
| Water Lots, from January 1, 1895..... | | 3,263 29 |
| PLANT SOUTH OF FRONT STREET— | | 15,997 75 |
| Connections..... | 125,225 76 | 531,441 06 |
| Drinking Fountains, from January 1, 1894..... | 1,597 41 | |
| Fire Hydrants..... | 28,323 66 | |
| Mains and Branches..... | | |
| Main, 30-inch..... | 587,575 20 | |
| Meters..... | 83,327 29 | |
| Stop Valves..... | 670,902 49 | |
| Office Furniture and Fixtures..... | 19,768 84 | |
| Reservoir..... | 37,276 89 | 883,095 05 |
| | | 1,090 14 |
| | | 137,629 35 |
| | | 1,021,814 54 |
| | | 1,553,255 60 |
| PERSONAL-ACCOUNTS—Assessed..... | | |
| Meter..... | 580 16 | |
| Plumbing..... | 7,497 39 | 8,077 55 |
| CASH in hands of Treasurer City of Erie..... | 125 32 | 8,202 87 |
| LIABILITIES: | | 437,18 |
| ACCOUNTS—City of Erie, Penna..... | | 8,640 05 |
| Credits on Assessed..... | | 1,561,895 65 |
| Balance..... | 654,740 48 | |
| | 281 38 | 655,021 86 |
| | | 906,873 79 |
| | | 1,561,895 65 |

* Discontinued, amount included with Boilers Nos. 7 to 14 inclusive.

ASSESSMENTS FOR 1898.

| ITEMS ASSESSED. | FIRST WARD. | | SECOND W'D. | | THIRD WARD. | | FOURTH W'D. | | FIFTH WARD. | | SIXTH WARD. | | SEVENTH W'D. | | TOTALS. | |
|-------------------------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|--------------|----------|---------|---------|
| | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. |
| Air Pumps..... | 6 | 18 00 | 19 | 57 00 | 24 | 74 00 | 6 | 18 00 | 6 | 18 00 | 6 | 18 00 | 67 | 203 00 | | |
| Bakeries..... | 1 | 5 00 | 5 | 26 24 | 3 | 19 36 | 3 | 25 80 | 3 | 15 00 | 6 | 35 60 | 21 | 127 00 | | |
| Banks..... | 3 | 15 00 | | | 2 | 15 00 | 2 | 10 00 | | | | | 7 | 40 00 | | |
| Barber Chairs..... | 23 | 64 00 | 57 | 118 00 | 44 | 127 00 | 28 | 82 00 | 12 | 40 00 | 17 | 52 00 | 181 | 483 00 | | |
| Bath Tubs..... | 306 | 905 11 | 307 | 942 50 | 648 | 1,937 33 | 546 | 1,578 00 | 117 | 353 00 | 167 | 490 50 | 2094 | 6,219 94 | | |
| Bicycle School..... | 1 | 5 00 | | | | | | | | | | | 1 | 5 00 | | |
| Billiard Tables..... | 8 | 8 00 | 5 | 5 00 | 20 | 20 00 | 6 | 6 00 | 2 | 2 00 | | | 41 | 41 00 | | |
| Blacksmith Fires..... | 5 | 22 50 | 13 | 55 00 | 13 | 52 50 | 6 | 25 00 | 3 | 15 00 | 1 | 5 00 | 41 | 175 00 | | |
| Boat Houses..... | 2 | 15 00 | | | | | 1 | 10 00 | | | | | 3 | 25 00 | | |
| Bonds..... | 9 | 32 74 | 9 | 43 63 | 6 | 33 45 | 4 | 5 49 | 16 | 57 07 | 10 | 34 88 | 59 | 291 82 | | |
| Bottling Works..... | 1 | 5 00 | 2 | 16 00 | | | 2 | 20 00 | | | | | 5 | 41 00 | | |
| Bowling Alleys..... | | | 2 | 10 00 | 4 | 16 67 | | | 1 | 5 00 | | | 7 | 31 67 | | |
| Churches & S. Schools | 2 | 6 00 | 7 | 33 00 | 10 | 50 00 | 9 | 45 00 | | | 4 | 20 00 | 32 | 154 00 | | |
| City Parks..... | 2 | 67 90 | | | | | 2 | 122 00 | | | | | 4 | 189 90 | | |
| Club Rooms..... | 2 | 6 00 | 9 | 57 00 | 9 | 31 00 | 7 | 29 00 | | | 2 | 6 00 | 29 | 129 00 | | |
| Cows..... | 12 | 9 00 | 15 | 11 25 | 7 | 5 25 | 8 | 6 00 | 25 | 18 25 | 13 | 9 75 | 3 | 3 36 | | |
| Eating Houses..... | 3 | 18 00 | 8 | 40 00 | 21 | 99 66 | 4 | 20 00 | 2 | 10 00 | 1 | 5 00 | 39 | 192 66 | | |
| Engine Houses..... | 1 | 5 00 | 1 | 5 00 | 1 | 10 00 | 1 | 5 00 | 1 | 5 00 | 2 | 10 00 | 7 | 40 00 | | |
| Elevators..... | 1 | 120 00 | 3 | 10 00 | 1 | 60 00 | 1 | 6 00 | | | | | 6 | 106 00 | | |
| Engine Horse Power.. | 107 | 185 67 | 226 | 369 69 | 126 | 215 00 | 74 | 54 37 | 47 | 56 70 | 36 | 62 00 | 30 | 49 50 | | |
| Families..... | 1333 | 6,658 51 | 2376 | 11876.67 | 1817 | 9,085 00 | 1510 | 7,550 00 | 1061 | 5,301 66 | 1270 | 6,336 67 | 44 | 330 00 | | |
| Fish Markets..... | | | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | | | | | 3 | 15 00 | | |
| Fish Ponds..... | | | | | | | 1 | 30 00 | | | 1 | 30 00 | 1 | 30 00 | | |
| Fountains..... | 1 | 625 52 | | | | | 1 | 300 53 | | | | | 8 | 1,347 05 | | |
| " Drinking..... | 2 | 30 00 | 2 | 30 00 | 4 | 21 00 | 3 | 700 53 | 2 | 30 00 | 1 | 15 00 | 1 | 22 50 | | |
| Fountain Cuspidors..... | | | 2 | 6 00 | 1 | 3 00 | 1 | 15 00 | | | | | 3 | 9 00 | | |
| Freight Houses..... | | | 1 | 15 00 | | | | | | | | | 1 | 15 00 | | |
| Green Washers..... | | | | | | | 1 | 24 00 | | | | | 1 | 24 00 | | |
| Graen Houses..... | | | | | | | 4 | 10 35 | | | | | 3 | 5 05 | | |
| Hand Basins..... | 350 | 295 60 | 428 | 393 00 | 891 | 760 16 | 710 | 589 00 | 78 | 70 33 | 172 | 154 83 | 4 | 5 25 | | |
| Heating Boilers—H. P | 380 | 89 93 | 264 | 66 00 | 670 | 163 16 | 691 | 172 75 | 82 | 18 50 | 101 | 25 25 | 2633 | 2,268 18 | | |
| Horses..... | 177 | 246 00 | 321 | 427 00 | 404 | 569 00 | 341 | 424 00 | 189 | 262 00 | 212 | 316 00 | 11 | 21 00 | | |
| Laundries..... | 1 | 5 00 | 3 | 15 00 | 3 | 15 00 | 2 | 10 00 | | | | | 6 | 10 00 | | |
| Lodging Rooms..... | 165 | 165 00 | 307 | 302 17 | 480 | 480 00 | 252 | 252 00 | 47 | 43 66 | 68 | 37 16 | 1325 | 1,289 00 | | |
| Meat Markets..... | 7 | 30 00 | 16 | 87 00 | 16 | 96 00 | 11 | 51 00 | 9 | 51 00 | 9 | 48 00 | 68 | 363 00 | | |

[illegible]

RATES FOR CITY WATER.

Approved by Select Council August 19, 1895. Approved by Common Council September 16, 1895. Approved by the Mayor September 21, 1895.

ARE ALL ANNUAL EXCEPT AS OTHERWISE INDICATED, AND PAYABLE QUARTERLY IN ADVANCE.

| | |
|---|---------------|
| Air Pump..... | 3 00 |
| Bath Tub—Private (one family) first tub..... | 3 00 |
| Bath Tub—Private (one family) each additional tub..... | 1 50 |
| Bath Tub—Public, each tub..... | 5 00 |
| Bakery, per barrel of flour used (but no charge less than \$5)..... | 01 |
| Barber Shop, first chair, including hand basin..... | 4 00 |
| Barber Shop, each additional chair, including hand basin..... | 2 00 |
| Billiard Tables, each..... | 1 00 |
| Blacksmith Fire, first fire..... | 5 00 |
| Blacksmith Fire, each additional fire..... | 2 50 |
| Boarding House, (in addition to family rates) per room..... | 1 00 |
| Building Purposes, per bushel of lime; to be paid before work is begun..... | 02 |
| Butcher Stalls..... | 3 00 to 15 00 |
| Charitable institutions, one-third annual rates..... | |
| Cow..... | 75 |
| Condensing Boiler for Steam Heating, (per season of 6 months) per horse power..... | 25 |
| Eating Houses..... | 5 00 to 25 00 |
| Family..... | 5 00 |
| Fire Protection Fixtures, testing same, thirty (30) minutes or less..... | 3 00 |
| Fire Protection Fixtures, testing same, one (1) hour or less, but more than thirty (30) minutes..... | 5 00 |
| Flushing Sewers, settling earth in ditches or purposes of like nature, per hour, or fractional part of an hour, each..... | 5 00 |
| Hand Basins in dwellings, hotels and schools, first basin..... | 1 00 |
| Hand Basins in dwellings, hotels and schools, each additional basin..... | 50 |
| Hand Basins in offices, stores and blocks, each..... | 1 00 |
| Hotels, (in addition to family rates) per room..... | 1 00 |
| Laundry, shop..... | 5 00 |

RATES FOR CITY WATER—Continued.

| | |
|--|----------------|
| Laundry, wash tub, stationary, each..... | 2 00 |
| Laundry, revolving washer, each..... | 5 00 |
| Livery Stable, per horse..... | 2 00 |
| Offices..... | 3 00 to 10 00 |
| Private Stable, one or two horses..... | 2 00 |
| Private Stable, each additional horse over two..... | 1 00 |
| Printing Offices..... | 5 00 to 30 00 |
| Public Halls..... | 5 00 to 25 00 |
| Saloons..... | 5 00 to 25 00 |
| School, per pupil (in addition to fixtures)..... | 10 00 |
| Slaughter Houses..... | 5 00 to 50 00 |
| Sleeping Rooms, each..... | 1 00 |
| Sprinkling Streets or Lawns with Hose, Per Season : | |
| Corner lot, 41 feet front or less..... | 5 00 |
| Inside lot, 41 feet front or less..... | 3 00 |
| For each additional foot front to either corner or inside lot..... | 05 |
| Steam Engines, ten hours per day, each Horse Power..... | 2 50 |
| Stores..... | 3 00 to 15 00 |
| Urinal, private, self-closing (one family)..... | 2 00 |
| Urinal, private, not self-closing (one family)..... | 6 00 |
| Urinal, public, self-closing..... | 3 00 |
| Urinal, public, not self closing..... | 10 00 |
| Urinal, private or public, continuous flow..... | 10 00 to 30 00 |
| Wash Tub, stationary, first tub (one family)..... | 2 00 |
| Wash Tub, stationary, each additional tub (one family)..... | 1 00 |
| Water Closet, pan or tank (one family) private..... | 3 00 |
| Water Closet, pan or tank (one family) each additional water closet..... | 1 50 |
| Water Closet, pan or tank, public, each..... | 5 00 |
| Water Closet, hopper, (one family) private, for each water closet..... | 6 00 |
| Water Closet, hopper, public, for each water closet..... | 10 00 |
| Work Shop, ordinary use..... | 3 00 to 5 00 |

RATES FOR CITY WATER—Continued.

All other uses, when not metered, to be assessed by the Commissioners.
The sprinkling season is from May 1st to November 1st in each year.
There is no fractional part of a sprinkling season.

It will cost as much to sprinkle but once at any time during the sprinkling season as it will to sprinkle each day at the prescribed hours during the entire season.

Sprinkling must be confined to the hours between 5 and 8 A. M., 12 and 1 P. M., and 5 and 8 P. M., nor during said intervals more than one hour at a time. Persons who exceed one hour may be charged at fountain rates, or held liable for violation of the rules, at the option of the Commissioners.

Water fixtures will be assessed for each and every purpose available, and for each family or establishment within the enclosure or separated only by a door, gateway, or other means of easy communications.

No abatement of charges shall be allowed for vacancy of premises, except from the date that notice has been given at the office of the Commissioners of Water Works that they are unoccupied.

The Commissioners may limit or stop the supply of water in cases of emergency and shut it off for repairs or extensions, they being the judges of the time and necessity. Neither the Commissioners nor the City of Erie shall be liable in damages for any in-sufficient supply of city water.

For each and every violation of the rules and regulations of the Water Works, the offending party will be subject to a fine of not less than FIVE nor more than FIFTY DOLLARS.

Meter Rates.

Six (6) cents for each one thousand (1,000) gallons by meter measurement. *Provided* the minimum receipts per quarter shall be for a

| | | | |
|----------------------------------|--------|-------------|---------|
| $\frac{3}{4}$ -inch or less..... | \$3 75 | 2-inch..... | \$10 00 |
| 1-inch..... | 4 50 | 3-inch..... | 18 75 |
| 1 $\frac{1}{2}$ -inch..... | 6 25 | 4-inch..... | 38 75 |

Statement of Meters December 31, 1897.

| KIND. | IN USE. | | | | | | | | | | NOT IN USE. | | | | | | | | | | TOTAL. | | | | | | | | | |
|------------------|---------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|-------|--------|--|--|--|
| | SIZE. | | | | | | | | | | Total. | SIZE. | | | | | | | | | | Total. | | | | | | | | |
| | % | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | % | 3/4 | | 1 | 1 1/2 | 2 | 3 | 4 | 6 | % | 3/4 | 1 | 1 1/2 | | 2 | 3 | 4 | 6 | Total. | | | |
| Union..... | 49 | 9 | 8 | 15 | 15 | 6 | 9 | 1 | 104 | 6 | 4 | 2 | 2 | 1 | ..... | ..... | ..... | ..... | ..... | 53 | 11 | 15 | 15 | 6 | 9 | 1 | 110 | | | |
| Worthington..... | 3 | 8 | 4 | 4 | 1 | 1 | 1 | 1 | 17 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 | 10 | 5 | 1 | 1 | 1 | ..... | 20 | | | |
| Thomson..... | 3 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 24 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 | | | |
| Crown..... | 1 | 4 | 2 | 1 | 8 | 1 | 2 | 1 | 19 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 5 | 2 | 1 | 8 | 1 | 2 | 20 | | | |
| Empire..... | ..... | 2 | 2 | ..... | 3 | ..... | ..... | ..... | 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 5 | | | | |
| National..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | | | | |
| Gem..... | ..... | ..... | ..... | ..... | 2 | ..... | ..... | ..... | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 | | | | |
| Total..... | 4 | 60 | 25 | 25 | 33 | 9 | 15 | 1 | 173 | 14 | ..... | 7 | 4 | 1 | 2 | ..... | ..... | ..... | ..... | 4 | 67 | 29 | 26 | 35 | 9 | 15 | 186 | | | |

A 1-inch Crown Meter was discovered to be a 3/4-inch meter.

| KIND. | GOOD. | | | | | | | | | | POOR. | | | | | | | | | | TOTAL. | | | | | | | | | |
|------------------|-------|-------|-------|-------|-------|-------|-------|-----|--------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|--------|-------|-------|-------|-------|----|--------|--|--|--|
| | SIZE. | | | | | | | | | | SIZE. | | | | | | | | | | SIZE. | | | | | | | | | |
| | 5/8 | 3/4 | 1 | 1 1/8 | 2 | 3 | 4 | 6 | Total. | 5/8 | 3/4 | 1 | 1 1/8 | 2 | 3 | 4 | 6 | Total. | 5/8 | 3/4 | 1 | 1 1/8 | 2 | 3 | 4 | 6 | Total. | | | |
| Union..... | 53 | 11 | 15 | 15 | 6 | 9 | 1 | 110 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 53 | 11 | 15 | 15 | 6 | 9 | 1 | 110 | | | |
| Worthington..... | 3 | 10 | 5 | 1 | 1 | 1 | ..... | 20 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 | 10 | 5 | 1 | 1 | ..... | 20 | ..... |  |  |  |
| Thomson..... | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 | | | |
| Crown..... | 1 | 5 | 2 | 1 | 8 | 1 | 2 | 20 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 5 | 2 | 1 | 8 | 1 | 2 | 20 | | | |
| Empire..... | ..... | 2 | 2 | ..... | 3 | ..... | ..... | 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 | ..... | 3 | ..... | ..... | 5 | ..... |  |  |  |
| National..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 1 | ..... |  |  |  |
| Gem..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 | ..... |  |  |  |
| Total..... | 4 | 67 | 29 | 26 | 35 | 9 | 15 | 186 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4 | 67 | 29 | 26 | 35 | 9 | 15 | 186 | | | |

Statement of Work Done by Inspector No. 1 in 1897.

| MONTH. | TURNED OFF ACCOUNT. | | | TURNED ON ACCOUNT. | | | INVESTIGATION. | | | TOTAL. |
|----------------|---------------------|------------|------------------|--------------------|----------|-------------|----------------|------------------|-----------|--------|
| | Unpaid. | Vacancies. | Leaks and Waste. | Paid. | Occupied | New Houses. | Complaint. | Leaks and Waste. | New Work. | |
| January..... | | 45 | 1 | | 28 | 7 | 59 | 2 | 94 | 236 |
| February..... | 2 | 23 | 1 | 1 | 33 | 9 | 15 | *195 | 96 | 375 |
| March..... | | 14 | 2 | | 54 | 27 | 1 | 3 | 107 | 208 |
| April..... | | 24 | | | 54 | 27 | 1 | 4 | 231 | 341 |
| May..... | 5 | 70 | | 3 | 51 | 57 | 2 | *252 | 263 | 705 |
| June..... | | 13 | | 4 | 36 | 31 | 3 | 2 | 228 | 317 |
| July..... | | 50 | | 1 | 31 | 25 | 1 | 2 | 153 | 265 |
| August..... | 13 | 20 | 1 | 5 | 38 | 22 | 4 | 4 | 66 | 175 |
| September..... | | 18 | 1 | 3 | 30 | 26 | 4 | *302 | | 493 |
| October..... | 4 | 76 | | | 40 | 41 | 5 | 4 | 164 | 334 |
| November..... | 18 | 67 | 2 | 12 | 35 | 36 | 6 | 5 | 148 | 329 |
| December..... | | 52 | | | 33 | 5 | 2 | *332 | 195 | 639 |
| Total..... | 42 | 472 | 8 | 20 | 463 | 313 | 103 | 1,131 | 1,747 | 4,117 |

*On vacancies.

Statement of Work Done by Inspector No. 2 in 1897.

| | | | | | | | | | | |
|----------------|---|----|---|--|----|---|----|----|----|-----|
| January..... | | | | | 1 | | | 1 | | 2 |
| February..... | | | | | 2 | 2 | | | | 4 |
| March..... | | 8 | 2 | | 23 | | *4 | 1 | 12 | 50 |
| April..... | 3 | 16 | | | 24 | 1 | *4 | 3 | 13 | 64 |
| May..... | | | | | | | | 2 | | 2 |
| June..... | | | | | | | | | | |
| July..... | | | | | | | | | | |
| August..... | | | | | | | | | | |
| September..... | | 1 | | | 2 | | | 1 | | 4 |
| October..... | | | | | | | 1 | 5 | | 6 |
| November..... | | 6 | | | 1 | | | | | 7 |
| December..... | | | | | 1 | | | | | 1 |
| Total..... | 9 | 25 | 2 | | 54 | 3 | 9 | 13 | 25 | 140 |

*Frozen.

Statement of Work Done by Inspector No. 3 in 1897.

| | | | | | | | | | | |
|----------------|----|----|--|---|----|----|----|---|----|-----|
| January..... | | | | | | | 3 | 1 | | 4 |
| February..... | | | | | | 2 | 2 | | | 4 |
| March..... | | | | | | | | | | |
| April..... | | 2 | | | 2 | 1 | | 1 | | 6 |
| May..... | 5 | 6 | | | 4 | 1 | | 1 | | 17 |
| June..... | | | | | 1 | | 1 | | | 2 |
| July..... | | | | | | | | | | |
| August..... | 8 | 2 | | 2 | 12 | 8 | 1 | | 3 | 36 |
| September..... | | 2 | | | 6 | 8 | 1 | | 11 | 28 |
| October..... | 3 | 3 | | | | | 3 | | 1 | 10 |
| November..... | 5 | 2 | | 1 | 1 | 1 | 63 | | | 73 |
| December..... | | | | | | | 2 | | | 2 |
| Total..... | 21 | 17 | | 3 | 26 | 21 | 76 | 3 | 15 | 182 |

Statement of Work Done at Annual Inspection by Inspector No. 2 in 1897.

| WARD. | NUMBER OF | | | | NO. OF SPRINKLERS. | | | | NUMBER OF CLOSETS. | | | | NUMBER OF | | | | | TOTAL. | |
|--------------|---------------------|-------------|-----------|--------------|--------------------|----------|-------|------------|--------------------|------------|-----------------|---------------------|--------------|----------|--------------|------------|------------------|--------|---------------------|
| | Premises Inspected. | Draw Cocks. | Hydrants. | Goose Necks. | Curb. | Hydrant. | Lawn. | Sill Cock. | Bath Tubs. | Wash Tubs. | Closing Hopper. | Non-Closing Hopper. | Pan or Tank. | Urinals. | Hand Basins. | Air Pumps. | Heating Boilers. | | Manufact'g Engines. |
| Third..... | 1,832 | 2,355 | 170 | 1 | 88 | 57 | 73 | 593 | 648 | 252 | 95 | 81 | 1,500 | 101 | 891 | 24 | 39 | 16 | 8,816 |
| Fourth..... | 1,489 | 1,685 | 246 | 13 | 163 | 82 | 80 | 418 | 546 | 271 | 77 | 49 | 1,062 | 66 | 710 | 6 | 32 | 6 | 7,001 |
| Sixth..... | 1,209 | 1,262 | 152 | 8 | 32 | 64 | 34 | 341 | 167 | 48 | 15 | 24 | 325 | 19 | 172 | 6 | 6 | 4 | 3,888 |
| Seventh..... | 23 | 21 | 6 | ..... | 3 | ..... | 18 | 3 | 2 | ..... | ..... | ..... | 2 | ..... | 2 | ..... | ..... | ..... | 80 |
| Total..... | 4,553 | 5,323 | 574 | 22 | 286 | 203 | 205 | 1,355 | 1,393 | 571 | 187 | 154 | 2,889 | 186 | 1,775 | 36 | 77 | 26 | 19,785 |

Statement of Work Done at Annual Inspection by Inspector No. 3 in 1897.

| | | | | | | | | | | | | | | | | | | | |
|--------------|-------|-------|-----|----|-----|-----|-----|-------|-----|-----|-----|-----|-------|-----|-----|----|----|----|--------|
| First..... | 1,312 | 1,440 | 199 | 9 | 71 | 34 | 48 | 328 | 306 | 94 | 63 | 60 | 605 | 38 | 350 | 6 | 16 | 9 | 4,988 |
| Second..... | 2,170 | 2,482 | 327 | 10 | 49 | 39 | 68 | 398 | 307 | 49 | 76 | 66 | 886 | 70 | 428 | 19 | 17 | 21 | 7,476 |
| Fifth..... | 1,056 | 1,150 | 92 | 5 | 17 | 30 | 60 | 291 | 117 | 14 | 15 | 19 | 238 | 13 | 78 | 6 | 11 | 3 | 3,224 |
| Seventh..... | 30 | 38 | 3 | | 1 | 1 | 2 | 5 | 1 | | | | 4 | | 2 | | | 1 | 88 |
| Total..... | 4,568 | 5,119 | 621 | 24 | 138 | 104 | 178 | 1,022 | 731 | 157 | 154 | 139 | 1,733 | 121 | 858 | 31 | 44 | 34 | 15,776 |



Amount of Coal Consumed in Pumping, Gallons of Water Pumped, Average Height Pumped, Cost per Million Gallons, Etc., from First Year Works were Operated to Dec. 31, 1897.

| Year. | Tons Coal Consumed. | Cost Coal from Jan. 1st to Dec. 31st. | Grades of Bituminous Coal. | Gallons of Water Pumped. | Increase or Decrease. | Number of places supplied. | No. of Fire Hydrants. | Average height of Water in Reservoir above surface of Bay. | Cost Coal per million gallons raised to Reservoir. | Gallons raised to Reservoir by one pound of Coal. |
|-----------|---------------------|---------------------------------------|----------------------------|--------------------------|-----------------------|----------------------------|-----------------------|--|--|---|
| 1868..... | 591 1 | \$ 309 61 | Lump. | | | | | | | |
| 1869..... | 544 4 | 4,818 48 | " | 246,648,960 | 32,719,535 i | 1,218 | 97 | 232 0 | \$18 76 | 98 5 |
| 1870..... | 1,064 5 | 5,159 10 | " | 279,368,495 | 115,707,505 i | 1,727 | 99 | 232 0 | 16 52 | 150 9 |
| 1871..... | 1,422 7 | 7,117 00 | " | 395,076,000 | 115,707,505 i | 2,140 | 103 | 232 0 | 21 90 | 114 8 |
| 1872..... | 1,308 5 | 6,528 50 | " | 384,062,415 | 11,013,585 d | 2,475 | 107 | 232 0 | 17 38 | 126 4 |
| 1873..... | 1,672 5 | 8,412 65 | " | 444,817,395 | 60,754,980 i | 2,663 | 107 | 232 0 | 16 30 | 145 5 |
| 1874..... | 1,759 0 | 7,709 54 | " | 531,005,475 | 86,188,080 i | 2,700 | 110 | 232 0 | 13 30 | 159 3 |
| 1875..... | 1,836 4 | 8,657 61 | " | 670,726,650 | 139,721,175 i | 2,763 | 112 | 232 0 | 12 75 | 135 7 |
| 1876..... | 1,105 1 | 8,925 22 | " | 660,981,810 | 9,744,840 d | 2,854 | 114 | 232 0 | 11 64 | 136 4 |
| 1877..... | 2,456 6 | 8,509 33 | " | 682,392,315 | 21,410,505 i | 2,915 | 115 | 232 0 | 9 19 | 153 6 |
| 1878..... | 2,453 3 | 7,945 37 | " | 807,800,400 | 125,408,085 i | 3,011 | 121 | 232 0 | 8 99 | 126 0 |
| 1879..... | 2,628 1 | 7,428 92 | Slack. | 775,805,250 | 31,995,150 d | 3,568 | 126 | 232 0 | 6 68 | 142 2 |
| 1880..... | 3,076 1 | 6,978 41 | " | 975,640,934 | 219,835,684 i | 4,110 | 161 | 232 0 | 6 45 | 139 7 |
| 1881..... | 3,430 3 | 6,517 58 | " | 829,759,260 | 145,881,674 d | 4,687 | 171 | 234 7 | 4 66 | 170 0 |
| 1882..... | 2,968 2 | 5,355 93 | " | 815,939,685 | 13,819,575 d | 5,077 | 197 | 234 7 | 4 99 | 152 4 |
| 1883..... | 2,398 2 | 3,908 59 | " | 917,781,350 | 101,841,665 i | 5,395 | 248 | 234 3 | 4 40 | 159 7 |
| 1884..... | 3,010 8 | 4,502 61 | " | 1,036,496,665 | 118,715,315 i | 5,658 | 270 | 232 9 | 3 86 | 165 8 |
| 1885..... | 3,243 8 | 4,575 79 | " | 1,117,389,075 | 80,892,410 i | 6,140 | 280 | 233 3 | 2 95 | 216 0 |
| 1886..... | 3,309 0 | 4,318 64 | " | 1,218,213,688 | 100,824,613 i | 6,368 | 318 | 234 1 | 1 89 | 292 1 |
| 1887..... | 2,820 4 | 3,589 31 | " | 1,341,708,002 | 123,494,314 i | 6,600 | 333 | 234 6 | 1 80 | 301 5 |
| 1888..... | 2,392 3 | 2,545 46 | " | 1,475,358,220 | 133,050,218 i | 7,086 | 346 | 235 2 | 1 81 | 322 4 |
| 1889..... | 2,446 0 | 2,661 12 | " | 1,659,625,551 | 184,267,331 i | 7,728 | 372 | 236 9 | 2 18 | 291 42 |
| 1890..... | 2,583 6 | 3,052 89 | " | 1,807,938,580 | 147,413,029 i | 8,255 | 393 | 237 3 | 2 35 | 279 43 |
| 1891..... | 3,120 7 | 3,941 53 | " | 2,047,993,595 | 240,954,925 i | 8,998 | 444 | 237 4 | 2 66 | 248 6 |
| 1892..... | 3,658 0 | 4,807 11 | " | 2,333,638,610 | 285,645,105 i | 9,687 | 479 | 236 6 | 2 43 | 306 8 |
| 1893..... | 4,693 5 | 6,218 95 | " | 1,816,596,518 | 517,042,092 i | 10,680 | 489 | 237 2 | 2 21 | 278 62 |
| 1894..... | 2,960 0 | 4,423 59 | " | 1,975,396,305 | 158,797,787 i | ..... | ..... | ..... | ..... | ..... |
| 1895..... | 3,541 5 | 4,377 16 | " | 2,005,757,728 | 30,361,423 i | 10,846 | 514 | 237 6 | 1 796 | 328 17 |
| 1896..... | 3,056 0 | 3,603 28 | " | 2,215,416,770 | 209,659,042 i | 11,385 | 523 | 235 9 | 2 034 | 331 75 |
| 1897..... | 3,338 2 | 4,507 52 | Miscel'a. | | | | | | | |

See pumping statistics for 1897.

PUMPING STATISTICS FOR 1897.

| MONTH. | No. 1. | | No. 2. | | No. 3. | | No. 4. | | TOTALS. | | Daily Average. | Average Lift in Feet. |
|----------------|--------------|----------|--------------|----------|--------------|----------|--------------|----------|--------------|----------|-------------------|-----------------------------|
| | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | | |
| January..... | | | | | | | | | | | | 236.97 |
| February..... | | | | | | | | | | | | 236.68 |
| March..... | | | | | | | | | | | | 236.86 |
| April..... | | | | | | | | | | | | 236.82 |
| May..... | | | | | | | | | | | | 235.04 |
| June..... | | | | | | | | | | | | 235.05 |
| July..... | | | | | | | | | | | | 237.65 |
| August..... | | | | | | | | | | | | 237.64 |
| September..... | | | | | | | | | | | | 237.40 |
| October..... | | | | | | | | | | | | 236.60 |
| November..... | | | | | | | | | | | | 237.20 |
| December..... | | | | | | | | | | | | 237.31 |
| Total..... | | | | | | | | | | | | 236.77 |

For a portion of the year the disturbances in the coal fields throughout the country, compelled us to purchase fuel as best we could, at prevailing prices, which makes the cost of pumpage above normal. Now, with our present storage capacity for coal, we hope to be able to guard against similar troubles in the future.

PUMPING STATISTICS.

There are four pumping engines.

Nos. 1 and 2 are Cornish Bull Pumps, erected in 1868; alike in their dimensions, which are as follows: Steam Cylinders 60 inches in diameter, Pump Plunger $20\frac{3}{4}$ inches in diameter, each 10-foot stroke, capacity being 165 gallons per stroke, pumping 2,000,000 gallons daily. One of these pumps is out of commission, the cost for repairs being greater than it is worth.

No. 3 is a Gaskill Horizontal Compound Pumping Engine, erected in 1886, having two H. P. Cylinders 21 inches in diameter, two L. P. Cylinders 42 inches in diameter, two pumps $19\frac{1}{2}$ inches in diameter, all 36-inch stroke; capacity being 182 gallons per revolution, pumping 5,000,000 gallons daily.

No. 4 is a Worthington Horizontal Compound High Duty Pumping Engine, erected in 1893, having two H. P. Cylinders 33 inches in diameter, two L. P. Cylinders 66 inches in diameter, two pumps 29 inches in diameter, all $49\frac{1}{4}$ -inch stroke; capacity being 552 gallons per stroke, pumping 12,000,000 gallons per day, at a piston speed of 128 feet per minute against a head of 260 feet.

There are two intakes, one constructed in 1868, of which 52 feet is brick 14 feet diameter, 590 feet is wood $4\frac{1}{4}$ feet in diameter, and 333 feet is boiler iron 4 feet in diameter, making a total length of 975 feet. The top of the outer end of this intake is four feet below the zero level of the bay, and as it approaches the shore ascends till the top is only two feet above the zero level of the bay. *This intake has not been used since the new one was completed, and as the part made of wood has not been submerged for some time it is undoubtedly past use.* The second intake was completed in 1896. It is made of cast iron 60 inches internal diameter, 8,307.18 feet long, buried in the bottom of the bay; at no place is there less than three feet of earth over its top. The outer end terminates in an octagonal crib, 40 feet being its extreme width and 8 feet high, the top being 13 feet below the zero level of the bay. So far as we know, this is the longest single piece of submerged 60-inch cast iron pipe in the world.

The standpipe was erected in 1868. It is five feet in diameter and 259.65 feet in height. A spiral staircase surrounds it and all enclosed in brick. So far as we know, this is the tallest standpipe in the world.

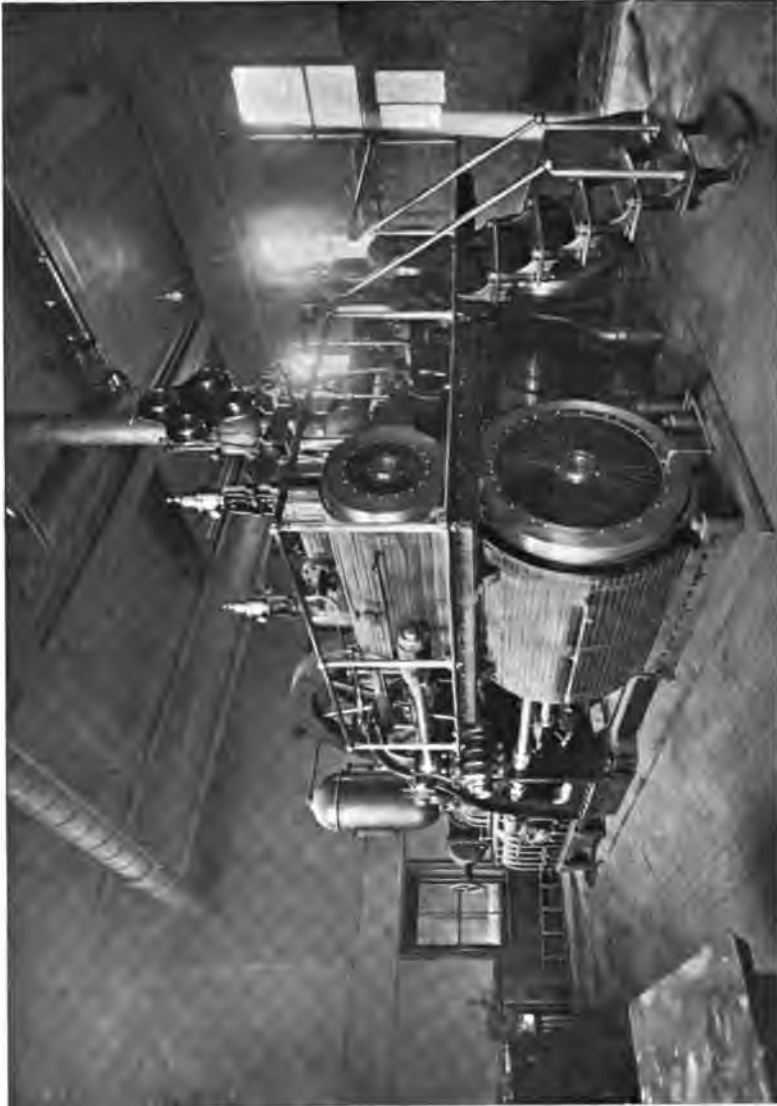
The boiler house is 74 feet wide, 102 feet long, and 25 feet from floor line to bottom of cords to roof. On the north side eight horizontal tubular boilers are installed in batteries of two each. The boilers are 72 inches in diameter, 18 feet long, without domes, and contain eighty 4-inch lap welded tubes, capable of carrying 150 lbs. pressure to the square inch.

On the south side of the house can be erected an equal number of the same size boilers, but till these are required the room is used for storing coal, the bins now in place hold 800 tons of fuel.

On the north side of the boiler house, near its east end, is a self-sustaining steel plate chimney, 175 feet high, 75 inches internal diameter, lined with fire-brick to a height of 80 feet.

The reservoir is about two miles distance from the pumping station, the bottom of which is 210 feet above the zero level of the water in the bay, and when the water is carried to a depth of 27 feet, holds 32,952,934 gallons of water.

The regular employees at the pumping works are one chief engineer, two assistant engineers, three firemen, two assistant firemen, one watchman and one janitor. The chief engineer stands a watch of five hours, from 7 to 12 every forenoon; the assistants divide the remainder of each day equally between them; each one of the firemen stands a watch of eight hours and each of the assistant firemen a watch of twelve hours. The chief engineer gives daily ten hours service; when not on watch, is employed in repairs, supervision, etc. In addition to standing their regular watch, the assistant engineers aid their superior officer in keeping the machinery in order. The watchman takes care of the grounds and does such other work as may be required of him. The janitor takes care of the buildings.



GASKILL PUMP.

FIRE HYDRANTS PLACED IN 1897.

| STREET. | LOCATION. | STYLE. | REMARKS. |
|----------------------------|--|-------------|---|
| Front—Water Works Grounds. | 292 ft. East of West Line of Eng. House No. 1. | Ludlow | |
| Twelfth | N. W. Corner Brewery. | Matthews | |
| " | N. E. Corner Wayne. | 6-in. | |
| " | N. E. Corner Perry. | 6-in. | |
| Seventeenth. | N. E. Corner German. | " | In place of old Matthews taken out. |
| Buffalo Road. | N. E. Corner Pennsylvania Avenue. | " | Pittsburg taken out, Buf. Rd., N. W. Cor. E. & V. |
| " | 229 ¹ feet East of Brandes. | " | |
| Twenty-first. | N. E. Corner Wayne. | " | In place of Bay State |
| Twenty-seventh. | 193 ¹ feet East of Holland. | " | |
| East Avenue. | 366 feet North of Fifteenth. | 6-in. | In place of 4" Matthews |
| " | 27 feet South of North Line of Twelfth. | 6 in. | In place of 4" Matthews |
| " | N. E. Corner Buffalo Road | " | |
| Ash. | S. E. Corner Third. | " | 4" Matthews taken out, N. E. Cor. Ash & 8d |
| State. | S. W. Corner Thirtieth. | " | |
| Chestnut. | 508 feet South of Twenty-sixth. | " | |
| Walnut | N. E. Corner Tenth. | 1½ Jarecki. | For Cart Sprinkler. |
| Liberty. | S. E. Corner Twenty-fifth. | Matthews. | |

SUMMARY OF FIRE HYDRANTS PLACED AND REMOVED IN 1897.

| PLACED. | SIZE. | NUMBER. | REMOVED. | SIZE. | NUMBER. |
|---------------------------------|--------|---------|--------------|-------|---------|
| Jarecki, (For Cart Sprinkler) | 1½ in. | .. | Matthews. | 4-in. | 5 |
| Matthews | 4 " | 11 | Pittsburg | 4 " | 1 |
| " | 6 " | 4 | Bay State | 4 " | 1 |
| Ludlow | 4 " | 1 | | | — |
| | | — 16 | Net increase | | 9 |
| Number in use December 31, 1896 | | | | | |
| Total in use December 31, 1897 | | | | | |
| | | | | | 514 |
| | | | | | 523 |

Main Pipe Laid in 1897.

| LOCATION. | SIZES. | | | | | | | | | | | | REMARKS. | | |
|---|--------|-----|--------|-----|-------|-----|-------|-----|-------|------|--------|-----|----------|--------|---------------------------|
| | 1-in. | | 1½ in. | | 2-in. | | 4-in. | | 6-in. | | 12-in. | | | 20-in. | |
| | Feet. | In. | Feet. | In. | Feet. | In. | Feet. | In. | Feet. | In. | Feet. | In. | | Feet. | In. |
| Front St., Water Works Grounds..... | 153 | | | | 11 | | 628 | 11 | | | | | 1467 | | 1467 ft. 4 in. taken out. |
| Second St., bet. Wallace and Ash..... | | | | | | | | | | | | | 61 | | 61 ft. 4 in. taken out. |
| Third, bet. Sassafras and Chestnut..... | | | | | | | | | | | | | | | |
| " across Holland..... | | | | | | | | | | | | | | | |
| Fifth, bet. Reed and Wayne..... | | | | | | | | | | 96 | | | | | |
| " bet. East and Penn'a Ave..... | | | | | | | | | | 209 | 4 | | | | |
| " across Holland..... | | | | | | | | | | 52 | 6 | | | | |
| Seventh, bet. Wayne and Perry..... | | | | | | | | | | 104 | | | | | |
| " bet. Reed and Wayne..... | | | | | | | | | | 24 | | | | | |
| Tenth, bet. Cascade and Wayne..... | | | | | | | | | | 201 | 4 | | | | |
| Eleventh, bet. Ash and Reed..... | | | | | | | | | | * 9 | 6 | | | | |
| " bet. Reed and Wayne..... | | | | | | | | | | * 9 | | | | | |
| " bet. Wayne and Perry..... | | | | | | | | | | * 10 | 6 | | | | |
| " bet. Perry and East Ave..... | | | | | | | | | | * 9 | | | | | |
| " bet. Ash and East Ave..... | | | | | | | | | | | | | | | |
| Twelfth, bet. Perry and East Ave..... | | | | | | | | | | | | | | | |
| " bet. Wayne and Perry..... | | | | | | | | | | | | | | | |
| " bet. Wayne and East Ave..... | | | | | | | | | | | | | | | |
| " northwest cor. Brewster..... | | | | | | | | | | | | | | | |
| Fourteenth, bet. Reed and Wayne..... | | | | | | | | | | * 9 | 10 | | | 1390 | |
| Centre, bet. East and Penn'a Ave..... | 174 | | | | | | | | | | | | | | |
| Lake Road, east from East Ave..... | | | | | | | | | | | | | | | |
| Sixteenth, bet. Liberty and Plum..... | | | | | | | | | | | | | | 36 | |
| Buffalo Road, intersection of East Ave..... | | | | | | | | | | | | | | | |
| " northeast cor. Penn'a Ave..... | | | | | | | | | | | | | | | |
| " bet. Brandes and City line..... | | | | | | | | | | * 13 | | | | | |
| " bet. Penn'a Ave and City line..... | | | | | | | | | | * 13 | | | | | |
| | | | | | | | | | | | | | | 917 | |

| | | | | | |
|---|-------|-------|-------|-------|---------------------------------|
| Twenty-first, northeast cor. Wayne..... | ..... | * 5 | 3 | ..... | Hydrant Branch. |
| Twenty-second, bet. Cascade and Raspberry..... | ..... | ..... | 195 | 9 | ..... |
| Twenty-fourth, bet. Peach and State..... | ..... | ..... | 140 | ..... | ..... |
| " " bet. Peach and Sasafra..... | ..... | ..... | 704 | 6 | 704½ ft. 4 in. taken out. |
| " " bet. Sasafra and Myrtle..... | ..... | ..... | 320 | 6 | 320½ ft. 4 in. taken out. |
| " " bet. Wallace and Ash..... | ..... | ..... | 109 | 6 | ..... |
| Twenty-fifth, bet. Myrtle and Chestnut..... | ..... | * 10 | ..... | ..... | Hydrant Branch. |
| " " 43 feet east of Ash..... | ..... | ..... | 270 | 6 | ..... |
| " " from Reed st. east..... | ..... | ..... | 81 | 6 | ..... |
| Twenty-seventh, bet. Holland and German..... | ..... | * 6 | 6 | ..... | Hydrant Branch. |
| Hill Road, bet. State and Peach..... | ..... | ..... | 36 | ..... | ..... |
| East Ave., bet. 13th and 14th..... | ..... | ..... | * 11 | ..... | Hydrant Branch. |
| " " 27 ft. south N-line of 12th..... | ..... | ..... | * 13 | ..... | Hydrant Branch. |
| " " bet. 12th and 21st..... | ..... | ..... | ..... | 3034 | 3034 ft. 6 in. taken out. |
| " " northwest cor. Buffalo Road..... | ..... | * 13 | 10 | ..... | Hydrant Branch. |
| Perry, bet. 7th and 8th..... | 62 | 8 | ..... | 185 | { Hy.B. 91½ ft. 4 in taken out. |
| Ash, southeast cor. 3d..... | ..... | ..... | * 10 | ..... | { Hy.B. Ash and 3d. |
| " " bet. 10th and 11th..... | ..... | ..... | ..... | 230 | In Alley. |
| " " bet. Ash and Reed and bet. 10th and 11th..... | ..... | ..... | 5 | ..... | ..... |
| Wallace, bet. 2d and 3d..... | 168 | ..... | ..... | 185 | 181½ ft. 1 in. taken out. |
| " " bet. 5th and 4th..... | ..... | ..... | ..... | 147 | ..... |
| " " bet. 21st and 20th..... | ..... | ..... | ..... | ..... | ..... |
| Parade, from 2d st. north..... | 293 | ..... | ..... | ..... | ..... |
| Holland, bet. 3d and 4th..... | ..... | ..... | ..... | 780 | 780 ft. 4 in. taken out. |
| " " bet. 6th and 7th..... | ..... | ..... | ..... | 421 | 421 ft. 4 in. taken out. |
| " " bet. 2d and 3d..... | ..... | ..... | ..... | ..... | 390 ft. 4 in. taken out. |
| State, bet. 26th and Hill Road..... | ..... | ..... | ..... | 443 | 6 |
| Sasafra, bet. 11th and 12th..... | 122 | ..... | ..... | ..... | { 68 ft. ¾ pipe taken out 1896 |
| Myrtle, bet. 6th and 5th..... | ..... | ..... | ..... | ..... | { and not reported until May |
| Chestnut, bet. 26th and 27th..... | ..... | ..... | ..... | 170 | 12, 1897. |
| " " bet. 26th and 27th..... | ..... | * 7 | ..... | ..... | Hydrant Branch. |
| " " bet. 12th and 13th..... | ..... | 19 | ..... | ..... | ..... |
| Walnut, northeast cor. 10th..... | * 7 | 3 | ..... | ..... | Hydrant Branch. |
| Poplar, bet. 7th and 6th..... | ..... | ..... | ..... | 210 | ..... |

CROSSES PLACED IN 1897.

| Size. | NUMBER. |
|---------------------------|---------|
| 4 x 4-inch..... | 1 |
| 6 x 6-inch..... | 12 |
| 12 x 6-inch..... | 4 |
| 12 x 12-inch..... | 2 |
| 20 x 20 x 4 x 4-inch..... | 2 |
| 20 x 20 x 12 x 6-inch.. | 1 |
| 30 x 20 x 20 x 20-inch.. | 1— 23 |

CROSSES REMOVED IN 1897.

| | |
|-------------------|-------|
| 4 x 4-inch..... | 9 |
| 6 x 4-inch..... | 6 |
| 6 x 6-inch..... | 3 |
| 20 x 4-inch..... | 1— 19 |
| Net increase..... | 4 |

TEES PLACED IN 1897.

| Size. | NUMBER. |
|-------------------|---------|
| 4 x 4-inch..... | 4 |
| 6 x 4-inch..... | 12 |
| 6 x 6-inch..... | 3 |
| 12 x 4-inch..... | 1 |
| 12 x 6-inch..... | 9 |
| 12 x 12-inch..... | 1 |
| 20 x 6-inch..... | 1— 31 |

TEES REMOVED IN 1897.

| | |
|-------------------|-------|
| 4 x 4-inch..... | 4 |
| 6 x 2-inch..... | 1 |
| 6 x 4-inch..... | 10 |
| 6 x 6-inch..... | 1— 16 |
| Net increase..... | 15 |

Stop Valves Placed in 1897.

| Street. | Where Located. | Size. | Style. | Remarks. |
|--------------------|--------------------------------------|-------|--------|---|
| Front, Water { | 166 ft. E. of W. line Eng. H. No. 1. | 4 | Eddy. | |
| Wks. Grounds { | 4 ft. N. of E. & P. R. R. Track | | | |
| Front, Water { | 202 ft. E. of W. line Eng. H. No. 1. | 2 | Hays. | |
| Wks. Grounds { | 2 ft. N. of N. line Boiler H. No. 2. | | | |
| Short..... | East line of Chestnut..... | 4 | Eddy. | |
| "..... | West "..... | 4 | " | |
| Third..... | East " French..... | 4 | " | In place of 4-in. Ludlow. |
| "..... | East " Holland..... | 4 | " | |
| "..... | West "..... | 4 | " | |
| "..... | East " Sassafras..... | 20 | " | |
| "..... | East " Chestnut..... | 20 | " | { 4-in. Ludlow taken out 19 ft. W. of E. line Chest. |
| Fourth..... | West " Holland..... | 6 | " | |
| Fifth..... | East " East Ave..... | 6 | " | |
| "..... | East " Holland..... | 6 | " | |
| "..... | 18 1/2 ft. W. of E line Chest | 4 | " | |
| Sixth..... | East line of Holland..... | 6 | " | |
| Seventh..... | East " Poplar..... | 4 | " | |
| Tenth..... | East " Raspberry..... | 6 | " | |
| Eleventh..... | 15 ft. E. of E. line Ash..... | 6 | " | |
| "..... | East line of Reed..... | 6 | " | |
| "..... | West " Wayne..... | 6 | " | |
| "..... | East " Wayne..... | 6 | " | |
| Twelfth..... | West " East Ave..... | 12 | " | |
| "..... | East " Reed..... | 6 | " | |
| "..... | East " Wayne..... | 12 | " | |
| Fourteenth..... | East " Reed..... | 6 | " | |
| Eighteenth..... | West " Parade..... | 6 | " | In place of 6-in. Ludlow. |
| "..... | West " Wayne..... | 6 | " | In place of 6-in. Ludlow. |
| Buffalo Road..... | 10 1/2 ft. E. of E. line Pa. Av. | 6 | " | |
| "..... | West line of Brandes..... | 6 | " | |
| Twenty-second..... | West " Cascade..... | 6 | " | |
| Twenty-fourth..... | East " Peach..... | 6 | " | |
| "..... | West " Peach..... | 6 | " | |
| "..... | East " Myrtle..... | 6 | " | |
| Twenty-fifth..... | East " Myrtle..... | 6 | " | |
| "..... | West " Myrtle..... | 6 | " | |
| "..... | West " Reed..... | 6 | " | |
| "..... | East " Reed..... | 6 | " | |
| Brewster..... | North " Twelfth..... | 6 | " | |
| East Avenue..... | South " Buffalo Road..... | 12 | " | In place of 6-in. |
| "..... | North " Buffalo Road..... | 12 | " | In place of 6-in. |
| "..... | North " Fifteenth..... | 12 | " | In place 6-in. 72 ft. N. 15. |
| "..... | South " Twelfth (E.)..... | 12 | " | In place of 6-in. |
| "..... | 616 1/2 ft. S. of S. line 12th..... | | | 4-in. Eddy taken out. |
| Parade..... | 27 1/2 ft. N. of N. line 17th..... | 1 1/2 | Hays. | |
| "..... | North line of Second..... | 1 | Hays. | |
| German..... | South " Second..... | 4 | Eddy. | In place of 4-in. Ludlow. |
| Holland..... | South " Fourth..... | 6 | " | In place of 4-in. Eddy. |
| "..... | North " Seventh..... | 6 | " | In place of 4-in. Eddy. |
| "..... | North " Third..... | 12 | " | { 4-in. Eddy taken out N. line of 4th. |

Stop Valves Placed in 1897—Continued.

| Street. | Where Located, | Size. | Style. | Remarks. |
|-----------------|--|-------|--------|---|
| Holland..... | South line of Third..... | 6 | Eddy. | { 4-in. Eddy taken out S. line of 6th. |
| French..... | { 143 ft. N. of S. line E. Park, } { 73½ ft. W. of E. line French } | 6 | " | |
| State..... | North line of Hill Road.. | 6 | " | |
| Sassafras..... | North " Third..... | 4 | " | |
| " | South " Third | 4 | " | |
| " | 68 ft. S. of S. line 14th.... | 4 | " | |
| " | 69 ft. S. of S. line 14th.... | 2 | Hays. | |
| Myrtle..... | North line of Third..... | 4 | Eddy. | |
| " | South line of Third..... | 4 | " | |
| Chestnut | { 82 ft. of S. l. 12th. 18 ft. W. of E. l. Chest. | 4 | " | |
| " | { 79 ft. of S. l. 12th. 23 ft. W. of W. l. Chest. | 4 | " | |
| Walnut..... | 11 ft. N. of N. line 10th.... | 1½ | Hays. | |
| Poplar..... | North line of Seventh..... | 6 | Eddy. | |
| Park Ave. South | West " Poplar | 6 | " | |
| Lake Road..... | East " East Ave.... | 6 | " | |

Summary of Stop Valves, Placed and Removed in 1897.

| PLACED— | | SIZE. | NUMBER. |
|-------------------|--|---------|---------|
| Hays..... | | 1 inch | 1 |
| " | | 1½ inch | 2 |
| " | | 2 inch | 2 |
| Eddy..... | | 4 inch | 16 |
| " | | 6 inch | 32 |
| " | | 12 inch | 7 |
| " | | 20 inch | 2 |
| Total..... | | | 62 |
| REMOVED— | | SIZE. | NUMBER. |
| Ludlow..... | | 4-inch | 3 |
| " | | 6-inch | 2 |
| Eddy..... | | 4-inch | 5 |
| " | | 6-inch | 4 |
| Total..... | | | 14 |
| Net increase..... | | | 48 |

CONNECTIONS MADE IN 1897.

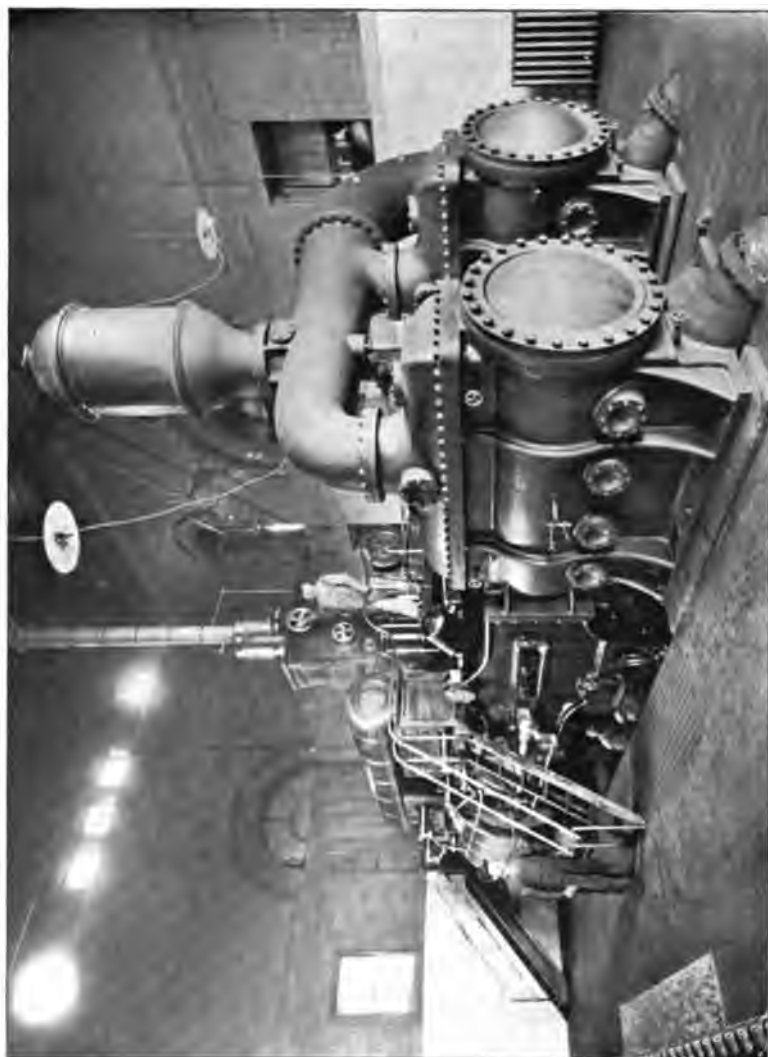
| SIZE | NUMBER. | |
|---|---------|------------------------------------|
| $\frac{3}{4}$ inch..... | 393 | |
| 1 "..... | 5 | |
| $1\frac{1}{8}$ "..... | 3 | |
| 2 "..... | 4 | |
| 3 "..... | 3 | |
| 4 "..... | 1 | |
| Total..... | 409 | Ft. of service pipe used, 7,753.1 |
| Removed or abandoned. | | |
| $\frac{3}{4}$ inch..... | 31 | |
| 1 "..... | 1 | |
| $1\frac{1}{8}$ "..... | 1 | |
| 2 "..... | 1 | |
| 4 "..... | 2 | |
| Total..... | 36 | Feet of service pipe less, 1,067.1 |
| Net increase..... | 373 | Ft., 6,716 |
| | | Or 1 Mile, " 1,436 |
| Previously reported to December 31, 1896..... | | 39 Miles, " 1,857 |
| | | 40 " " 3,293 |

N. B. In addition 97 connections were renewed, etc., on streets to be paved, and others which had given out, in the following wards:

| | | |
|-------------|-------------------------|-------|
| First Ward, | $\frac{3}{4}$ inch..... | 41 |
| Second " " | $\frac{3}{4}$ "..... | 26 |
| Fourth " " | $\frac{3}{4}$ "..... | 17 |
| Sixth " " | $\frac{3}{4}$ "..... | 13-97 |

Statement of Connections made to December 31, 1897.

| WARD. | IN STREETS THAT WERE TO BE PAVED AND HAVE NOT BEEN USED. | | | | | | | | | | IN USE. | | | | | | | | | | TOTAL | | | | | | | | | | | | | | |
|--|--|-------|-------|-------|-------|--------|-----------------|-----|-------|-----|---------|--------|-----------------|-----|-------|--------|-------|--------|-------|-----|--------|-------|-------|-------|-------|--------|--|--|--|--|--|--|--|--|--|
| | SIZE IN INCHES. | | | | | TOTAL. | SIZE IN INCHES. | | | | | TOTAL. | SIZE IN INCHES. | | | | | TOTAL. | | | | | | | | | | | | | | | | | |
| | ¾ | 1 | 1½ | 4 | | | ¾ | 1 | 1½ | 1¾ | 2 | | 2½ | 3 | 4 | 6 | ¾ | | 1 | 1½ | 1¾ | 2 | 2½ | 3 | 4 | 6 | | | | | | | | | |
| First | 107 | ..... | ..... | ..... | ..... | 107 | 1,301 | 20 | ..... | 10 | 11 | ..... | ..... | 15 | ..... | 1,357 | 1,408 | 20 | ..... | 10 | 11 | ..... | ..... | 15 | ..... | 1,464 | | | | | | | | | |
| Second..... | 249 | 1 | 1 | 1 | ..... | 252 | 2,010 | 15 | ..... | 26 | 17 | ..... | ..... | 39 | 7 | 2,114 | 2,259 | 16 | ..... | 27 | 17 | ..... | ..... | 40 | 7 | 2,366 | | | | | | | | | |
| Third..... | 395 | 1 | ..... | ..... | ..... | 396 | 1,806 | 32 | ..... | 22 | 22 | 1 | ..... | 24 | 4 | 1,911 | 2,201 | 33 | ..... | 22 | 22 | 1 | ..... | 24 | 4 | 2,307 | | | | | | | | | |
| Fourth..... | 221 | 1 | ..... | ..... | ..... | 222 | 1,499 | 27 | 3 | 17 | 23 | ..... | ..... | 13 | ..... | 1,582 | 1,720 | 28 | 3 | 17 | 23 | ..... | 13 | ..... | 1,804 | | | | | | | | | | |
| Fifth..... | 56 | ..... | ..... | ..... | ..... | 56 | 1,065 | 11 | 1 | 10 | 7 | ..... | ..... | 4 | ..... | 1,098 | 1,121 | 11 | 1 | 10 | 7 | ..... | 4 | ..... | 1,154 | | | | | | | | | | |
| Sixth..... | 73 | 2 | 4 | ..... | ..... | 79 | 1,213 | 17 | ..... | 9 | 7 | ..... | 1 | 4 | ..... | 1,251 | 1,286 | 19 | ..... | 9 | 7 | ..... | 1 | 8 | ..... | 1,330 | | | | | | | | | |
| Seventh..... | ..... | ..... | ..... | ..... | ..... | ..... | 43 | 4 | 1 | 6 | 3 | ..... | 1 | 3 | 1 | 62 | 43 | 4 | 1 | 6 | 3 | ..... | 1 | 3 | 1 | 62 | | | | | | | | | |
| Total..... | 1,101 | 5 | 1 | 5 | ..... | 1,112 | 8,937 | 126 | 5 | 100 | 90 | 1 | 2 | 102 | 12 | 9,375 | 10038 | 131 | 5 | 101 | 90 | 1 | 2 | 107 | 12 | 10,487 | | | | | | | | | |
| Total Number reported in 1896..... | | | | | | | | | | | | | | | | 10,124 | | | | | 10,533 | | | | | | | | | | | | | | |
| Total number made in 1897..... | | | | | | | | | | | | | | | | 409 | | | | | | | | | | | | | | | | | | | |
| Number abandoned, but not reported, in 1896..... | | | | | | | | | | | | | | | | 14 | | | | | Less | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| From which deduct omissions in 1896..... | | | | | | | | | | | | | | | | 4 | | | | | 10 | | | | | | | | | | | | | | |
| To which add number abandoned in 1897..... | | | | | | | | | | | | | | | | — | | | | | 36 | | | | | 46 | | | | | | | | | |
| Total number connections December 31, 1897. | | | | | | | | | | | | | | | | | | | | | | | | | | 10,487 | | | | | | | | | |



WORTHINGTON PUMP.

OFFICERS AND SALARIES PAID THEM IN 1897.

| | |
|--|-----------|
| <i>Commissioners</i> —Wm. Hardwick..... | \$ 900 00 |
| T. W. Shacklett..... | 900 00 |
| Clark Olds..... | 900 00 |
| <i>Secretary and Treasurer</i> —Wm. Himrod | 2,000 00 |
| <i>Assistant Secretary</i> —Geo. C. Gensheimer..... | 1,440 00 |
| <i>Book-Keepers</i> —John Kolb..... | 1,080 00 |
| R. H. Bear..... | 960 00 |
| W. W. Todd..... | 840 00 |
| <i>Clerk</i> —M. L. Whitley..... | 660 00 |
| <i>Inspectors</i> —John D. Spafford..... | 840 00 |
| Wm. McCleery..... | 780 00 |
| P. F. Weinheimer..... | 780 00 |
| <i>Meter Taker</i> —Perry E. Thurber..... | 780 00 |
| <i>Superintendent of Street Work</i> —R. T. Walker..... | 1,320 00 |
| <i>Foreman of Street Work</i> —Fred Simons, per day..... | 2 75 |
| Fred D. Gross, per day | 2 75 |
| <i>Chief Engineer</i> —F. A. Roth..... | 1,320 00 |
| <i>Assistant Engineers</i> —Geo. R. Miller..... | 960 00 |
| Henry F. Voltz | 130 00 |
| <i>Firemen</i> —Joseph Burns..... | 660 00 |
| Jacob Mullen..... | 660 00 |
| Nelson Jamison..... | 110 00 |
| <i>Assistant Firemen</i> —R. W. Simons..... | 400 00 |
| O. W. Roth..... | 100 00 |
| <i>Watchman at Pumping Station</i> —Michael Flynn..... | 660 00 |
| <i>Janitor at Pumping Station</i> —Nathan Block..... | 600 00 |
| <i>Keeper of Reservoir</i> —Samuel Phister | 480 00 |
| <i>Janitress</i> —Mrs. Matilda Sager..... | 168 00 |

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| | | | |
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| Block, Nathan..... | 87 | Gensheimer, Geo. C..... | |
| Boilers..... | 6 | Hardwick, William..... | |
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| Brown, Conrad J..... | 14, 15, 20 | Shacklett, Turner W..... | |
| Bryant, J. M..... | 14 | Sherwin, G. W. F..... | |
| Burns, Joseph..... | 87 | Sloan, B. F..... | |
| Cash—Monthly Exhibit..... | 17 | Starr, Geo. W..... | |
| Received to Dec. 31, 1897.... | 21 | Whitman, Benjamin... .. | |
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| Collections..... | 9 | Gaskill..... | 10, 74, 75 |
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| Connections made in 1897..... | 84 | Reed, Wm. W..... | 14 |
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| Crosses..... | 81 | Roth, F. A..... | 3 |
| Disbursements..... | 52-57 | Roth, O. W..... | |
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| Flynn, Michael..... | 87 | Salaries, 1897..... | |
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| Gensheimer, Geo. C..... | 3, 15, 44, 87 | Selden, John C..... | |
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| Jamison, Nelson..... | 87 | Typhoid Fever..... | 8 |
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| Liebel, Michael..... | 14, 15 | Water Pumped..... | 73 |
| Mains..... | 78, 79, 80 | Weinheimer, P. F..... | |
| Mason, Dr. W. P..... | 8 | Whitley, M. L..... | |
| McClearv, Wm..... | 87 | Whitman, Benjamin..... | 12, 14 |
| Meters..... | 60 | Worthington Pump..... | 74, 75 |
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| Miller, Geo. R..... | 87 | Wright, J. W., M. D..... | |
| Mullen, Jacob..... | 87 | Voltz, Henry F..... | |
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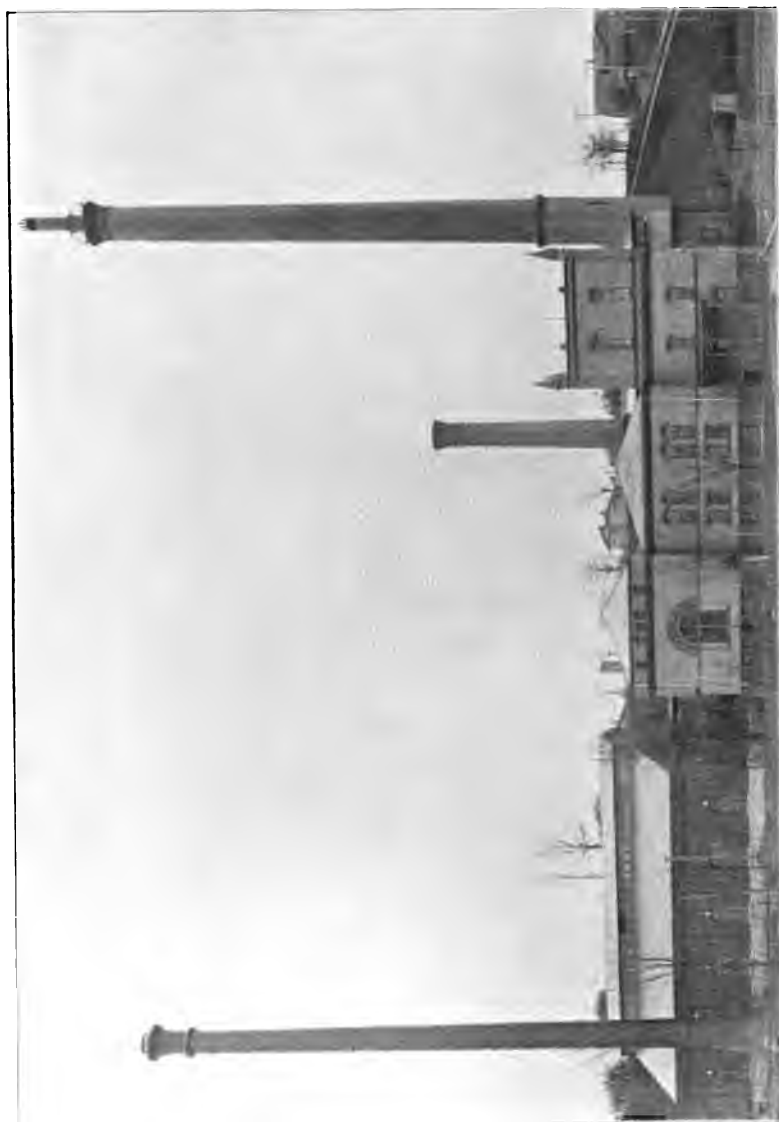
THIRTY-SECOND
ANNUAL REPORT
★ OF THE
COMMISSIONERS
OF
WATER WORKS,
IN THE
CITY OF ERIE,
TO THE
COUNCILS,
FOR THE
YEAR ENDING DECEMBER 31, 1898.

ERIE, PA.
HERALD PRINT. & PUB. CO.
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ERIE, PA :
HERALD PRINT. & PUB. CO.,
1899.



PUMPING STATION AS SEEN FROM THE BAY.

Commissioners of Water Works,

In the City of Erie,

Erie, Penn'a,

WILLIAM HARDWICK,

T. W. SHACKLETT,

CLARK OLDS.

Officers.

T. W. SHACKLETT,

President,

WILLIAM HIMROD,

Secretary and Treasurer.

GEO. C. GENSHEIMER,

Assistant Secretary.

F. A. ROTH,

Chief Engineer at Pumping Station.

R. T. WALKER,

Superintendent of Street Work.

OFFICE—City Hall.

OFFICE HOURS—From 8:00 A. M. to 5:00 P. M.; on Mondays to 9:00 P. M.

REGULAR MEETINGS OF THE COMMISSIONERS—Every Saturday at 3:00 P. M., and the first of each month at 11:00 A. M., except when it occurs on Sunday, then they meet the following day. Special meetings when necessary.

11.

12.

13.

14.

15.

ANNUAL REPORT.

To the Councils of the City of Erie, Pa. :

GENTLEMEN :—

We herewith submit the thirty-second annual report of this department :

RECEIPTS :

| | | | |
|---|-----------|---------|------------|
| Balance in City Treasury Dec. 31, 1897..... | \$ | 437 | 18 |
| From Water Rents : | | | |
| Assessments... .. | \$100,894 | 25 | |
| Meters | 29,696 | 97 | |
| Building Permits..... | 570 | 33 | |
| Special Permits..... | 141 | 93 | 131,303 48 |
| From other sources..... | | 1,251 | 77 |
| Total..... | \$ | 132,992 | 43 |

DISBURSEMENTS :

| | | | |
|---|--------|---------|----|
| Construction..... | \$ | 62,017 | 20 |
| Maintenance | 15,799 | 92 | |
| Operating | 21,065 | 34 | |
| Accounting..... | 8,465 | 51 | |
| Legal..... | 600 | 00 | |
| Sundries | 6 | 92 | |
| Sinking Fund Commissioners..... | 25,000 | 00 | |
| Balance in City Treasury Dec. 31, 1898..... | | 37 | 54 |
| Total..... | \$ | 132,992 | 43 |

Our accounts have not been audited for the years 1897 and 1898, and at the very outset of this report we desire to reiterate our request that this important duty be performed, at least, once annually.

The increase in water receipts over the previous year was \$7,196.87.

The amount of water pumped was 2,270,520,528 gallons,—an increase over the year 1897 of 55,103,758 gallons.

This is a daily per capita of nearly 108 gallons for each man, woman and child in the city, basing our population upon 55,000 inhabitants, and goes to show that more water is wilfully wasted than is legitimately consumed.

The English cities use on an average 28 to 40 gallons per capita daily, for each and every inhabitant, while in the city of Fall River, Mass., (where meters are used for domestic as well as commercial and manufacturing purposes) the consumption is less than 34 gallons.

Allowing, therefore, the very liberal quantity of 50 gallons, daily, per capita. it will be seen that we waste fully as much as is required for legitimate use.

We laid in the year 1898 nearly five miles of pipe, making the present total length of our mains about 101 miles.

Included in the pipe placed was the extension of the 12-inch main on Twelfth street, from Wayne street (to which point it was brought last year from Twenty-first street via East avenue), to Parade street, thence northwardly as far as Fifth street, connecting at Seventh street with a pipe of same size already in that thoroughfare, thus making a complete belt of 12-inch main from Seventh and Chestnut streets (where junction is made with the 20 and 30-inch force mains), extending to East avenue via the route already described, thence southwardly to Twenty-first street where it joins a 12-inch pipe, which in turn extends to the large mains in Chestnut street; thereby affording an improved circulation in more than one-half of the city and at the same time providing a very much better fire protection for the eastern portion of our municipality. We also made a net gain of 328 connections, making the total number 10,815, which are used by about 9,000 water consumers.

The Commissioners have had under consideration for several years the question of lower water rates, although we very frankly say we do not share in the opinion held by some of our citizens

that the present schedule is exorbitant. We have on file in our office a carefully tabulated statement of the rates prevailing in 136 cities of the United States, in 117 of which the charges are higher than in Erie on the average household fixtures. A list of a number of these cities taken from said tabulated statement will be found on pages 82-83 of this report.

It is quite true that several large cities have, ostensibly, within recent years, very materially reduced their water rates. It is also true that some of these cities, notably Buffalo and Detroit, receive large appropriations from the Councils to help them out in the matter of cheap rates; but even this plan has not been entirely successful, and has resulted in producing a deficit, as is evidenced from the last message of Mayor Diehl of Buffalo, wherein he calls special attention to the Water Department, alleging that the expenditures had exceeded the receipts by \$234,531.39, which he affirms was to be attributed very largely, if not entirely, to the decreased receipts caused by lowering the rates, and adding still further that there was already a deficiency in the department due the Controller of over \$500,000.

The truth is, water cannot be furnished anywhere at a sum less than its cost and produce any other result.

The subject of abnormally low water rates was most fully set forth and ably argued against in a paper read by F. A. W. Davis, Vice President Indianapolis Water Co., at the last meeting of the American Water Works Association, held in Buffalo, which was subsequently published in *Fire and Water*, and in *City Government*, and from them copied by several of the Erie papers.

The Commissioners, earnestly endeavoring to promote the best interests of the city, have been actively and industriously engaged for the past seven years in the prosecution of such work as in their judgment would be of lasting benefit to the community, beginning, as has already been stated in former annual reports, with the erection of an engine room in which was placed the large 12,000,000-gallon Worthington High Duty Pump.

This was quickly followed by the extension of the intake pipe to a point in the bay where the waters are least contaminated,—the happy effect of which is seen in the report of the Health

Officer, which gives the number of typhoid fever deaths in 1898 as 7, whereas in the years 1891 and 1892,—which was prior to the laying of the new intake—the deaths from this cause were 24 in each year.

Later on, we undertook the construction of a new boiler house (to be used also for the storage of coal), and its equipment with boilers to supplant those worn out by long service; and during the past year we have converted the old boiler house into an electric light room, and a dynamo and engine have been installed therein, which furnish arc and incandescent lights for the buildings and grounds, the smaller and original dynamo and engine being used only on the incandescent system whenever a smaller number of lights is required.

Our chief work of the year has been on the proposed High Service system for South Erie, and the 24-inch main required for the same has been laid from the Pumping Station up Walnut Street as far as Nineteenth, and westwardly to Cherry.

It is intended to extend this main to a special standpipe near the Reservoir, to be erected on a plot of ground which has been secured during the past year for that purpose, and to have the system in complete working order before the close of the year 1899.

Pending the completion of the work, as originally laid out, the new service will be put into operation, temporarily, by a series of check and relief valves by means of which that portion of the city south of Nineteenth street will be placed in the High Service section. We have felt that the needs of our fellow citizens in South Erie were worthy of consideration and have deemed it our bounden duty to supply them with a more effective service, inasmuch as they pay the same rates as do their downtown neighbors.

The call of a committee, headed by Ex-Water Commissioner M. Liebel and John S. Rilling, Esq., from the new St. Vincent's Hospital, (which institution would be practically inoperative without a more effective water pressure), together with memorials and visits from South Erie residents, all pleading for better service, induced us to take prompt action towards relieving them.

As a part of the new system, and at the same time to add to our general pumping facilities, it was necessary to make arrangements for another pumping engine, and after receiving bids, the contract

was awarded the Henry R. Worthington Company for an 8,000,000-gallon pump, which is now being erected in the "Gaskill" engine room, in the space provided for that purpose by our predecessors many years ago.

In view of what has been done and of what we are now doing, it must be remembered that funds are necessary to carry on a work of such proportions, and inasmuch as we have neither asked for nor expected an appropriation from Councils to help us out, (but on the contrary have paid into the hands of the Sinking Fund Commissioners, within the past two years, the sum of \$40,000.00) we have faith to believe that the fair minded citizens of Erie will patiently wait until such time as these pressing needs and important improvements have been completed before expecting any very great reduction in their water rates; especially as we have shown by comparison, and of which we, ourselves, are thoroughly convinced, that the present schedule will compare favorably with a large majority of the cities in the country.

The report of the Water Works of Cambridge, Mass., a city of 87,000 inhabitants, (where rates are even higher than in Erie), in pleading that their present charges be maintained until certain improvements were completed, says "There is nothing in the domestic expenses of our citizens where they receive so much for so little as in the water they use."

We are in hopes, however, that the year 1900 will see the bulk of our improvements completed and paid for, when it will be our great pleasure to recommend to your honorable bodies a new schedule showing a material reduction in rates for all purposes,—and allowing householders the privilege of a meter, if they so elect; in the meantime, we propose to formulate a revised and modified meter rate, to be put in operation July 1, 1899.

We confidently believe this will meet with your approval, and in this connection we should be pleased to have you act favorably upon our communication to your honorable bodies, dated September 24, 1898, asking that we be allowed to extend the one-third rate now being granted to all charitable institutions (which were enumerated in said communication) to all churches, parsonages, parish houses and to all schools, whether public, private or parochial.

The question of the disposition of the surplus revenues of the department, after the extraordinary expenses herein referred to shall have been made, very naturally comes up for consideration.

It is a well-known fact that the law governing cities of our class, provides that any such surplus can only be used towards liquidating the debts of the Water Works, and cannot, as some suppose, be diverted to any other purpose, or appropriated for any street or municipal improvement whatsoever.

As the Water Works affords protection to all property in the city, so that even the smallest tax-payer is benefitted by reason of having his home or place of employment protected from fire, whether he, himself, is a water-taker or not, it seems reasonable that not the water consumers only, but the tax-payers generally, should contribute towards the payment of the interest upon the Water Works debt; and in like manner the rapid reduction of said debt is also objected to by many upon the ground that we have no right to make the people of the present generation bear all the burden and expense entailed in the construction of the Water Works, but, as posterity will reap the blessings and benefits of the system, it should be left for them also to pay their due proportion towards the liquidation of such indebtedness.

It may be stated, therefore, that the policy which this Board has outlined as one, in their judgment, worthy to be followed, (after the works referred to shall have been completed and paid for,) is to reduce all rates for domestic and other purposes, and to pay into the Sinking Fund not less than \$25,000 annually, which sum of itself, would in less than twenty years wipe out that portion of the debt of the city, incurred in building the Water Works.

It should not be forgotten that in the meantime, this department is furnishing free water for all city purposes; has erected and is maintaining at its own expense more than five hundred fire hydrants; is placing new ones whenever and wherever necessary; (while in Detroit the Fire Department with funds appropriated from general tax levy, buys, erects and maintains all such public fire hydrants;) that we are supplying public fountains, drinking troughs, etc., all of which if charged for at anything like the rates asked by private corporations for such service, would amount to over \$30,000.00 annually, a sum more than equivalent to the

interest on the water works debt ; and it should be remembered also, that this department has never required payment from our citizens of a single dollar for the laying of mains in the streets or for connections from the main to curb, which service is charged for in Detroit and many other cities just the same as the laying of sewers and the making of sewer connections.

Unless the chemical and bacteriological analysis of the water, which is still being made at stated intervals, should show an alarming deterioration in its quality and render necessary the construction of the much-talked-of intercepting sewer, which this department has always favored, or in its stead the invention of some better device for preventing the polluting sewerage from emptying into the bay, or perhaps the establishment of a plant for the still more expensive purification of the water by means of filtration, it is quite safe to say that the Erie Water Works at the close of the year 1899, will be in such condition as to require no extraordinary expenditures for the next fifteen or twenty years.

Respectfully submitted,

T. W. SHACKLETT,

WM. HARDWICK,

CLARK OLDS,

Commissioners.



***Commissioners of Water Works, in the City of Erie, from
Organization to December 31, 1898.***

The COMMISSIONERS OF WATER WORKS, IN THE CITY OF ERIE, are appointed by the Court of Common Pleas of Erie County, Penna., for a term of three years, one member being named annually, in May.

| | | | |
|------|-------------------|-------------------|--------------------|
| 1867 | *W. L. Scott, | Henry Rawle, | Wm. W. Reed. |
| 1868 | *John C. Selden, | Henry Rawle, | Wm. W. Reed. |
| 1869 | *John C. Selden, | Henry Rawle, | Wm. W. Reed. |
| 1870 | *John C. Selden, | Henry Rawle, | Wm. W. Reed. |
| 1871 | *†John C. Selden, | Henry Rawle, | Wm. W. Reed. |
| 1872 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed. |
| 1873 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed. |
| 1874 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed. |
| 1875 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed. |
| 1876 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed. |
| 1877 | Michael Liebel, | John Gensheimer, | Wm. W. Reed. |
| 1878 | Michael Liebel, | *J. M. Bryant, | Wm. W. Reed. |
| 1879 | Michael Liebel, | *J. M. Bryant, | *G. W. F. Sherwin. |
| 1880 | Michael Liebel, | *J. M. Bryant, | *G. W. F. Sherwin. |
| 1881 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1882 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1883 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1884 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1885 | Michael Liebel, | Benjamin Whitman, | Geo. W. Starr. |
| 1886 | C. Kessler, | Benjamin Whitman, | Geo. W. Starr. |
| 1887 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1888 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1889 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1890 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1891 | C. Kessler, | C. J. Brown, | Wm. Hardwick. |
| 1892 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |
| 1893 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |
| 1894 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |
| 1895 | T. W. Shacklett, | †C. J. Brown, | Wm. Hardwick. |
| 1896 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |
| 1897 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |
| 1898 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |

* Dead.

† Mr. Selden resigned before the expiration of his second term; Mr. Barr was substituted by the other Commissioners, and afterward appointed by the Court.

‡ C. J. Brown resigned December 28, 1895, having been elected Treasurer of Erie County, Penna. Clark Olds was chosen by the other Commissioners, for the unexpired term, on recommendation of the Court, January 2, 1896.

Officers of Water Works, from Organization to Dec. 31, 1898.

| | President. | Secretary & Treasurer. | Assistant Secretary. |
|------|--------------------|------------------------|----------------------|
| 1867 | Wm. W. Reed, | *Wm. Brewster, | ..... |
| 1868 | Wm. W. Reed, | *Wm. Brewster, | ..... |
| 1869 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1870 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1871 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1872 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1873 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1874 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1875 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1876 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1877 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1878 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1879 | Michael Liebel, | B. F. Sloan, | ..... |
| 1880 | Michael Liebel, | B. F. Sloan, | ..... |
| 1881 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1882 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1883 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1884 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1885 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1886 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1887 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1888 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1889 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1890 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1891 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1892 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1893 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1894 | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1895 | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1896 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1897 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1898 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer. |

* Dead.

NOTE.—Mr. Brewster was elected June 14, 1867; resigned October 26, 1868, to take effect November 2, 1868; served 1 year, 4 months and 18 days. Mr. Perkins was elected October 26, 1868, to take effect November 2, 1868; resigned March 30, 1878; same accepted December 21, 1878, to take effect January 1, 1879; served 10 years, 1 month and 20 days. Mr. Sloan was elected December 21, 1878, to take effect January 1, 1879; continued in office to June 1, 1891; served 12 years and 5 months. Mr. Himrod was appointed Secretary May 23, 1891, to take effect June 1, 1891. Mr. Gensheimer was appointed Assistant Secretary January 26, 1884.

**Monthly Receipts from all Sources during the Year Ending
December 31, 1898.**

| Month. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|--------------------|---------------------|--------------------|-----------------|-------------------|-----------------|---------------------|
| January..... | \$ 22,760 32 | \$ 7,303 09 | \$ 6 23 | \$ 18 33 | \$ 29 38 | \$30,117 35 |
| February..... | 1,992 94 | 169 33 | 3 75 | 436 83 | 32 04 | 2,634 89 |
| March..... | 185 39 | 360 02 | 11 25 | 4 70 | 33 43 | 594 79 |
| April..... | 22,641 82 | 6,631 19 | 6 48 | 39 94 | 77 13 | 29,396 56 |
| May..... | 2,057 93 | 201 75 | 22 80 | | 63 77 | 2,346 25 |
| June..... | 573 91 | 312 84 | 14 95 | 168 47 | 95 98 | 1,166 15 |
| July..... | 23,195 25 | 6,682 16 | 31 00 | 5 82 | 38 68 | 29,952 91 |
| August..... | 2,040 20 | 85 26 | 18 67 | 7 58 | 60 16 | 2,211 87 |
| September.... | 176 26 | 55 45 | 10 25 | 20 09 | 35 96 | 298 01 |
| October..... | 23,230 75 | 7,764 63 | 8 64 | 5 96 | 33 94 | 31,043 92 |
| November..... | 1,968 13 | 106 47 | 5 83 | 3 44 | 50 48 | 2,134 35 |
| December..... | 71 35 | 24 78 | 2 08 | 540 61 | 19 38 | 658 20 |
| Total | \$100,894 25 | \$29,696 97 | \$141 93 | \$1,251 77 | \$570 33 | \$132,555 25 |

**Receipts from each Ward during the Year Ending December
31, 1898.**

| Ward. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|-------------------|---------------------|--------------------|-----------------|-------------------|-----------------|---------------------|
| First..... | \$ 13,771 73 | \$ 3,657 34 | \$ 22 50 | \$ 9 33 | \$113 74 | \$17,574 64 |
| Second..... | 22,177 32 | 13,788 02 | 25 50 | 410 96 | 73 53 | 36,475 33 |
| Third..... | 24,442 91 | 4,803 36 | 24 90 | 323 03 | 134 05 | 29,728 25 |
| Fourth..... | 19,014 32 | 1,403 13 | 12 31 | 481 96 | 144 08 | 21,055 80 |
| Fifth..... | 9,445 77 | 4,490 11 | 40 47 | 20 09 | 41 02 | 14,037 46 |
| Sixth..... | 11,359 26 | 1,171 70 | 6 25 | 2 13 | 61 42 | 12,600 76 |
| Seventh *..... | 682 94 | 383 31 | 10 00 | 4 27 | 2 49 | 1,083 01 |
| Total..... | \$100,894 25 | \$29,696 97 | \$141 93 | \$1,251 77 | \$570 33 | \$132,555 25 |

* Are accounts outside of the City Limits.

**Cash Account of Secretary and Treasurer of Commissioners
of Water Works, in the City of Erie, for the Year Ending
December 31, 1898.**

| Month. | Receipts, | Deposited with Treasurer City of Erie. | Balance in Office at Close of Busi- ness each month. |
|----------------|--------------|--|--|
| January..... | \$ 30,117 35 | \$ 24,606 58 | \$ 5,510 77 |
| February..... | 2,634 89 | 7,362 35 | 783 31 |
| March..... | 594 79 | 869 15 | 508 95 |
| April..... | 29,396 56 | 23,555 43 | 6,350 08 |
| May..... | 2,346 25 | 7,866 50 | 829 83 |
| June..... | 1,166 15 | 1,043 68 | 952 30 |
| July..... | 29,952 91 | 24,366 84 | 6,538 37 |
| August..... | 2,211 87 | 8,017 85 | 732 39 |
| September..... | 298 01 | 326 60 | 703 80 |
| October..... | 31,043 92 | 25,612 36 | 6,135 36 |
| November..... | 2,134 35 | 8,009 91 | 259 80 |
| December..... | 658 20 | 918 00 | ..... |
| Total..... | \$132,555 25 | \$132,555 25 | ..... |

**Statement of Account with Treasurer of the City of Erie, for
the Year Ending December 31, 1898.**

| Month. | Received from Sec'y & Treas. Commissioners of Water Works, in the City of Erie. | Paid on Warrants of Commissioners of Water Works, in the City of Erie | Monthly Balances. |
|------------------------|---|--|----------------------|
| Balance from 1897..... | \$ 437 18 | ..... | ..... |
| January..... | 24,606 58 | \$ 13,342 21 | \$ 11,701 55 |
| February..... | 7,362 35 | 15,063 75 | 4,000 15 |
| March..... | 869 15 | 2,604 02 | 2,265 28 |
| April..... | 23,555 43 | 9,344 76 | 16,475 95 |
| May..... | 7,866 50 | 4,966 27 | 19,376 18 |
| June..... | 1,043 68 | 12,255 42 | 8,164 44 |
| July..... | 24,366 84 | 18,363 20 | 14,168 08 |
| August..... | 8,017 85 | 9,889 89 | 12,296 04 |
| September..... | 326 60 | 11,328 36 | 1,294 28 |
| October..... | 25,612 36 | 9,828 57 | 17,078 07 |
| November..... | 8,009 91 | 2,254 86 | 22,833 12 |
| December..... | 918 00 | 23,713 58 | 37 54 |
| Total..... | \$132,992 43 | \$132,954 89 | \$ 37 54 |

**Amount Collected annually for Water Furnished, showing
Total Collections, also the Increase and Decrease
each Year since the Commencement
of the Water Works.**

| Year Ending Dec. 31st. | RECEIVED. | | ANNUAL. | |
|---------------------------|-------------|--------------|-------------|------------|
| | Annually. | Totals. | Increase. | Decrease. |
| 1869..... | \$ 4,264 47 | | | |
| 1870..... | 9,237 30 | \$ 13,501 77 | \$ 4,972 83 | |
| 1871..... | 18,138 08 | 31,639 85 | 8,900 78 | |
| 1872..... | 21,652 68 | 53,292 53 | 3,514 60 | |
| 1873..... | 25,560 40 | 78,852 93 | 3,907 72 | |
| 1874..... | 27,938 90 | 106,791 83 | 2,378 50 | |
| 1875..... | 29,639 38 | 136,431 21 | 1,700 48 | |
| 1876..... | 31,048 76 | 167,479 97 | 1,409 38 | |
| 1877..... | 32,276 57 | 199,756 54 | 1,227 81 | |
| 1878..... | 29,636 01 | 229,392 55 | | \$2,640 56 |
| 1879..... | 33,343 20 | 262,735 75 | 3,707 19 | |
| 1880..... | 37,385 00 | 300,120 75 | 4,041 80 | |
| 1881..... | 40,385 87 | 340,506 62 | 3,000 87 | |
| 1882..... | 43,818 73 | 384,325 35 | 3,432 86 | |
| 1883..... | 48,269 89 | 432,595 24 | 4,451 16 | |
| 1884..... | 51,852 78 | 484,448 02 | 3,582 89 | |
| 1885..... | 53,550 35 | 537,998 37 | 1,697 57 | |
| 1886..... | 58,725 00 | 596,723 37 | 5,174 65 | |
| 1887..... | 67,121 92 | 663,845 29 | 8,396 92 | |
| 1888..... | 73,197 03 | 737,042 32 | 6,075 11 | |
| 1889..... | 81,110 68 | 818,153 00 | 7,913 65 | |
| 1890..... | 87,279 96 | 905,432 96 | 6,169 28 | |
| 1891..... | 93,891 55 | 999,324 51 | 6,611 59 | |
| 1892..... | 105,527 03 | 1,104,851 54 | 11,635 48 | |
| 1893..... | 111,247 43 | 1,216,098 97 | 5,720 40 | |
| 1894..... | 111,821 94 | 1,327,920 91 | 574 51 | * |
| 1895..... | 116,927 63 | 1,444,848 54 | 5,105 69 | |
| 1896..... | 121,442 94 | 1,566,291 48 | 4,515 31 | |
| 1897..... | 124,106 61 | 1,690,398 09 | 2,663 67 | |
| 1898..... | 131,303 48 | 1,821,701 57 | 7,196 87 | |

* Meter rates for water changed from a sliding scale of 6 cents to 10 cents per 1,000 gallons, according to amount consumed, to a flat rate of 6 cents per 1,000 gallons, causing a reduction in receipts of \$5,000.00.

STATEMENT OF WARRANTS ISSUED IN 1898.

JANUARY.

TO PAY VOUCHER.

| <i>Date. No.</i> | <i>Of For</i> | <i>Amount.</i> |
|------------------|---|----------------|
| 4 8859 | Jos. Sweeney, | |
| | Coke.....\$ | 15 30 |
| 8860 | Globe Iron Foundry Co., | |
| | Castings..... | 273 92 |
| 8861 | Joseph Dudenhoefer, | |
| | Brick..... | 345 60 |
| 8 8862 | Wm. F. Nick & Son, | |
| | Brushes..... | 1 30 |
| 8863 | The Dispatch Publishing Company. | |
| | One Year's Subscription,..... | 6 00 |
| 8864 | Standard Brick Works, | |
| | Brick..... | 6 25 |
| 8865 | Geo. C. Gensheimer, Ass't Secy., | |
| | Sundries..... | 6 83 |
| 8866 | Erie Mfg. & Supply Co., | |
| | Valves and Discs..... | 13 95 |
| 8867 | Herald Printing & Publishing Co., | |
| | Books and Stationery..... | 18 50 |
| 8868 | E. J. Riblet. | |
| | Shop Rent..... | 20 00 |
| 8869 | The Taunton Locomotive Mfg. Co., | |
| | Expansion Joint..... | 80 00 |
| 8870 | Pay Roll, Street Work, | |
| | Disbursed by M. L. Whitley, Clerk | 260 15 |
| 8871 | Shiffler Bridge Company, | |
| | Lower Chords and Plates..... | 30 38 |
| 8872 | Stockdale Coal Co., | |
| | Coal..... | 34 09 |
| 15 8873 | Geo. C. Gensheimer, Ass't Secy., | |
| | Sundries..... | 38 85 |
| 8874 | Pennsylvania Company, | |
| | Freight..... | 44 69 |
| 8875 | Packard & Boynton, | |
| | Coal..... | 58 67 |
| 8876 | F. A. Mizener, | |
| | Coal..... | 109 98 |
| 8877 | National Lead Company, | |
| | Lead Pipe..... | 213 98 |
| 8878 | Pay Roll, Street Work, | |
| | Disbursed by M. L. Whitley, Clerk..... | 265 74 |
| 8879 | Youghiogheny River Coal Company, | |
| | Coal..... | 680 41 |
| 8880 | Constable Bros., | |
| | Estimate on Contract | 2,414 65 |
| 22 8881 | Conrad J. Brown. | |
| | Hay | 8 45 |
| 8882 | Geo. C. Gensheimer, Ass't Secy., | |
| | Sundries | 23 96 |

JANUARY—Continued.

TO PAY VOUCHER.

| <i>Date, No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|------------------|--|------------|----------------|
| 22 8883 | Keystone Carriage Works, | | |
| | Wagon Repairs..... | \$ | 55 70 |
| 8884 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk..... | | 246 66 |
| 8885 | Erie City Iron Works, | | |
| | Boilers..... | | 7,465 33 |
| 8886 | William P. Mason, | | |
| | Analyses of Water for 1897..... | | 343 00 |
| 29 8887 | Geo. C. Gensheimer, Ass't Secy., | | |
| | Sundries..... | | 10 90 |
| 8888 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk..... | | 248 97 |
| Total..... | | | \$13,342 21 |

FEBRUARY.

TO PAY VOUCHER.

| <i>Date, No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|------------------|--|------------|----------------|
| 1 8889 | Pay Roll—Pumping Station, | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Secy...\$ | | 665 00 |
| 8890 | Pay Roll—Office and Inspectors, | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Secy... | | 866 66 |
| 2 8891 | Meehan Boiler and Construction Co., | | |
| | Steel Plate Chimney, No. 1..... | | 561 53 |
| 5 8892 | Mehl & Sapper, | | |
| | Hardware and Tools..... | | 1 27 |
| 8893 | O. C. Thayer & Son, | | |
| | Cement and Lime..... | | 1 35 |
| 8894 | The Flickinger Roofing & Cornice Co., Ltd., | | |
| | Repairing Pump..... | | 2 54 |
| 8895 | Erie Hard Wall Plaster Co., | | |
| | Hard Wall Plaster..... | | 3 00 |
| 8896 | Edison Electric Light & Power Co., | | |
| | Light..... | | 4 23 |
| 8897 | Times Publishing Company, | | |
| | Advertising..... | | 4 50 |
| 8898 | The Dispatch Publishing Co., | | |
| | Advertising..... | | 4 80 |
| 8899 | Held, Gorenflo & Co., | | |
| | Advertising..... | | 5 00 |
| 8900 | C. Kessler, | | |
| | Brooms, Chimneys, etc..... | | 5 33 |
| 8901 | S. S. Burton, | | |
| | Coal..... | | 5 50 |
| 8902 | The Herald Printing & Publishing Co., | | |
| | Advertising..... | | 6 00 |
| 8903 | J. N. Blaisdell, | | |
| | Horse Shoeing and Repairing Tools..... | | 6 70 |
| 8904 | A. C. Ross, Agent, | | |
| | Paint and Brushes..... | | 6 93 |
| 8905 | Keystone Electric Company, | | |
| | Carbon Brushes, etc..... | | 8 00 |

FEBRUARY—Continued.

TO PAY VOUCHER.

| <i>Date</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|-------------|------------|--|------------|----------------|
| 5 | 8906 | Sackett Screen Company, | | |
| | | Tools..... | \$ | 14 00 |
| | 8907 | Wm. Densmore & Co., | | |
| | | Oats..... | | 15 30 |
| | 8908 | E. J. Riblet, | | |
| | | Shop Rent..... | | 20 00 |
| | 8909 | W. R. Jordan, | | |
| | | Mason Work..... | | 25 44 |
| | 8910 | Erie Truck & Scale Co., | | |
| | | Coal Wagon..... | | 33 75 |
| | 8911 | The Mohawk Refining Co., | | |
| | | Boiler Compound..... | | 37 79 |
| | 8912 | Wm. Schade, | | |
| | | Labor and Material—Boilers and Tools. | | 41 46 |
| | 8913 | Geo. C. Gensheimer, Ass't Secy., | | |
| | | Sundries..... | | 43 04 |
| | 8914 | Skinner Engine Company, | | |
| | | Boiler and Engine Repairs..... | | 53 97 |
| | 8915 | New York & Pennsylvania Telep. and Teleg. Co., | | |
| | | Rental of Telephones..... | | 56 25 |
| | 8916 | J. H. Braggins, | | |
| | | Labor and Material for Boilers..... | | 62 70 |
| | 8917 | Globe Iron Foundry Co., | | |
| | | Castings..... | | 79 89 |
| | 8918 | Atlantic Refining Company, | | |
| | | Oil..... | | 90 70 |
| | 8919 | Chas. S. Clarke, P. M., | | |
| | | Postal Cards..... | | 100 00 |
| | 8920 | National Lead Company, | | |
| | | Solder and Block Tin | | 105 99 |
| | 8921 | Youghiogheny River Coal Company, | | |
| | | Coal..... | | 114 56 |
| | 8922 | Hays Manufacturing Co., | | |
| | | Fittings for Connections, Pipe, etc..... | | 130 73 |
| | 8923 | Erie Machine Shop, | | |
| | | Engine Repairs, etc..... | | 143 89 |
| | 8924 | Union Water Meter Company, | | |
| | | Meter..... | | 198 02 |
| | 8925 | Erie Mfg. & Supply Co., | | |
| | | Hose, Oil, Tools, Waste and Packing..... | | 312 19 |
| | 8926 | The McCreary Roofing Co., | | |
| | | Covering Pipe, Valves, Tees, etc..... | | 417 03 |
| | 8927 | Momeyer & Graf, | | |
| | | Coal and Coke..... | | 525 13 |
| | 8928 | Lake Shore Foundry, | | |
| | | Pipe and Specials..... | | 2,721 09 |
| | 8929 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 249 44 |
| 12 | 8930 | William Crane, | | |
| | | Electrical Work..... | | 5 00 |
| | 8931 | Geo. C. Gensheimer, Ass't Secy., | | |
| | | Sundries..... | | 14 54 |
| | 8932 | W. De Witt Himrod, | | |
| | | Stationery..... | | 37 80 |

FEBRUARY—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of For</i> | <i>Amount.</i> |
|--------------|------------|--|----------------|
| 12 | 8933 | Jarecki Manufacturing Co., Fittings..... | \$ 198 08 |
| | 8934 | Johannesen Mfg. Co., Office Furniture and Fixtures..... | 200 00 |
| | 8935 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 257 53 |
| | 8936 | Lake Shore Foundry, Pipe and Specials..... | 2,200 88 |
| 19 | 8937 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 258 61 |
| 22 | 8938 | A. E. Sisson, Real Estate..... | 1,500 00 |
| 26 | 8939 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 8 10 |
| | 8940 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 304 35 |
| | 8941 | Johannesen Mfg. Co., Office Furniture and Fixtures..... | 346 50 |
| 28 | 8942 | T. W. Shacklett, Services as Commissioner..... | 150 00 |
| | 8943 | William Hardwick, Services as Commissioner..... | 150 00 |
| | 8944 | Clark Olds, Services as Commissioner..... | 150 00 |
| | 8945 | Pay Roll—Pumping Station, Disbursed by Geo. C. Gensheimer, Ass't Secy.... | 665 00 |
| | 8946 | Pay Roll—Office and Inspectors, Disbursed by Geo. C. Gensheimer, Ass't Secy.... | 866 66 |
| Total..... | | | \$15,063 75 |

MARCH.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of For</i> | <i>Amount.</i> |
|--------------|------------|---|----------------|
| 5 | 8947 | Skinner Engine Company, Blue Prints..... | \$ 3 10 |
| | 8948 | Rea & McKean, Printing..... | 4 00 |
| | 8949 | Keystone Electric Company, Fuse Block and Labor..... | 4 15 |
| | 8950 | O. C. Thayer & Son, Cement..... | 4 20 |
| | 8951 | J. N. Blaisdell, Horse Shoeing, etc..... | 4 25 |
| | 8952 | C. Kessler, Soap, etc..... | 4 30 |
| | 8953 | The Flickinger Roofing & Cornice Co., Ltd., Iron Pump..... | 4 50 |
| | 8954 | G. J. Gebhardt, Coal..... | 5 75 |

MARCH—Continued.**TO PAY VOUCHER.**

| <i>Date.</i> | <i>No.</i> | <i>Of For</i> | <i>Amount.</i> |
|--------------|------------|---|----------------|
| 5 | 8955 | Mehl & Sapper, Hardware, Packing, Tools..... | \$ 6 69 |
| | 8956 | Erie Gas Company, Coke..... | 8 25 |
| | 8957 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 8 74 |
| | 8958 | A. S. Pinney, Hardware and Tools | 14 62 |
| | 8959 | Wm. F. Nick, Oil and Paint..... | 14 82 |
| | 8960 | Erie Machine Shop, Engine Repairs and Tools..... | 17 26 |
| | 8961 | Winschel & Company, Linoleum and Rubber..... | 18 10 |
| | 8962 | J. H. Braggins, Galvanized Iron and Labor..... | 19 87 |
| | 8963 | E. J. Riblet, Shop Rent..... | 20 00 |
| | 8964 | Jarecki Manufacturing Co., Fittings | 20 42 |
| | 8965 | Herald Printing & Publishing Co., Stationery..... | 23 11 |
| | 8966 | Mutual Telephone Company, Rental of Telephones..... | 26 00 |
| | 8967 | Thomson Meter Co., Repairing Meters..... | 41 30 |
| | 8968 | Erie Oil Works, Oil..... | 51 25 |
| | 8969 | Youghiogheny River Coal Company, Coal..... | 52 31 |
| | 8970 | Hays Manufacturing Co., Pipe and Fittings..... | 74 86 |
| | 8971 | Erie Mfg. and Supply Co., Gauge Cocks, Valves, Packing, etc..... | 114 54 |
| | 8972 | The McCreary Roofing Co., Covering Pipes and Valves..... | 154 13 |
| | 8973 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 277 84 |
| | 8974 | Murphy Bros., Copper Pans..... | 2 90 |
| | 8975 | Times Publishing Company, Printing..... | 18 00 |
| | 8976 | Globe Iron Foundry Co., Castings and Drawings..... | 44 22 |
| | 8977 | A. E. Sisson, Real Estate..... | 400 00 |
| 12 | 8978 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 341 05 |
| | 8979 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 8 00 |
| 19 | 8980 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 9 31 |
| | 8981 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 345 79 |

MARCH—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|------------|----------------|
| 26 | 8982 | Geo. C. Gensheimer, Ass't Secy., | | |
| | | Sundries..... | \$ | 13 75 |
| | 8983 | Dispatch Printing & Engraving Co., Ltd., | | |
| | | Printing..... | | 20 00 |
| | 8984 | Patrick Doyle, | | |
| | | Top Dressing..... | | 24 00 |
| | 8985 | Pay Roll—Street Work. | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 378 64 |
| Total..... | | | | \$ 2,604 02 |

APRIL.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|------------|----------------|
| 1 | 8986 | Pay Roll—Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Secy .. | \$ | 665 00 |
| | 8987 | Pay Roll—Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Secy... | | 866 66 |
| 2 | 8988 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk. | | 482 57 |
| 7 | 8989 | Peter McLeod, | | |
| | | Estimate on Contract Altering Buildings..... | | 500 00 |
| 9 | 8990 | Lyman Felheim, | | |
| | | Lumber..... | | 2 52 |
| | 8991 | Hollands Mfg. Co., | | |
| | | Tools..... | | 2 66 |
| | 8992 | South Erie Iron Works, | | |
| | | Castings..... | | 2 76 |
| | 8993 | R. T. Williams & Co., | | |
| | | Plumbing Material. | | 3 57 |
| | 8994 | C. Kessler, | | |
| | | Brooms and Wicks..... | | 3 60 |
| | 8995 | Herald Printing & Publishing Co., | | |
| | | Stationery..... | | 4 75 |
| | 8996 | Skinner Engine Company, | | |
| | | Blue Prints and Castings..... | | 5 85 |
| | 8997 | J. N. Blaisdell, | | |
| | | Horse Shoeing and Tools..... | | 6 05 |
| | 8998 | Wm. F. Nick & Son, | | |
| | | Oil, Paint and Varnish..... | | 6 05 |
| | 8999 | Keystone Electric Company, | | |
| | | Repairing Electric Light Plant..... | | 6 70 |
| | 9000 | A. S. Pinney, | | |
| | | Hardware and Tools. | | 7 50 |
| | 9001 | Conrad J. Brown, | | |
| | | Hay..... | | 8 65 |
| | 9002 | Henry Beckman & Son, | | |
| | | Grass Seed..... | | 9 10 |
| | 9003 | James L. Firman, | | |
| | | Teaming..... | | 9 36 |
| | 9004 | Erie Machine Shop, | | |
| | | Engine Repairs..... | | 9 40 |

APRIL—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of For</i> | <i>Amount.</i> |
|--------------|------------|---|----------------|
| 9 | 9005 | O. C. Thayer & Son, Cement and Pipe..... | \$ 9 42 |
| | 9006 | John Mayerhoefer, Repairing Tools..... | 12 50 |
| | 9007 | Mehl & Sapper, Hardware and Tools..... | 13 37 |
| | 9008 | Patrick Doyle, Top Dressing..... | 16 00 |
| | 9009 | The Estate of Wm. E. Bell, Deceased, Mary A. Bell, Administratrix, Taxes..... | 16 00 |
| | 9010 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 16 27 |
| | 9011 | Wm. Densmore & Co., Oats..... | 17 50 |
| | 9012 | E. J. Riblet, Shop Rent..... | 20 00 |
| | 9013 | Merchants & Manufacturers Electric Light, Heat and Power Co., Electric Light Fixtures—for Office..... | 20 93 |
| | 9014 | Harold M. Sturgeon, Insurance..... | 25 00 |
| | 9015 | Globe Iron Foundry Co., Castings..... | 27 74 |
| | 9016 | Thos. G. Morse, Telephones..... | 28 85 |
| | 9017 | The Mohawk Refining Co., Boiler Compound..... | 37 40 |
| | 9018 | The J. L. Mott Iron Works, Material for Engine No. 4..... | 42 00 |
| | 9019 | Jarecki Manufacturing Co., Fittings..... | 53 44 |
| | 9020 | The Atlantic Refining Company, Oil..... | 94 17 |
| | 9021 | Erie Mfg. & Supply Co., Tools, Packing, Valves, etc..... | 118 75 |
| | 9022 | Youghiogheny River Coal Company, Coal..... | 121 62 |
| | 9023 | Henry R. Worthington, Valves..... | 132 77 |
| | 9024 | Hays Manufacturing Co., Fittings..... | 142 04 |
| | 9025 | F. A. Mizener, Coal..... | 146 81 |
| | 9026 | Momeyer & Graf, Coal..... | 223 31 |
| | 9027 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 42 16 |
| | 9028 | Herald Printing & Publishing Co., Printing and Stationery..... | 342 50 |
| | 9029 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 364 91 |
| 16 | 9030 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 130 97 |

APRIL—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|------------|----------------|
| 16 | 9031 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | \$ | 383 75 |
| | 9032 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight..... | | 18 53 |
| 23 | 9033 | Times Publishing Company, | | |
| | | Time Books..... | | 33 50 |
| | 9034 | Geo. C. Gensheimer, Ass't Secy., | | |
| | | Sundries..... | | 176 63 |
| | 9035 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 439 87 |
| 30 | 9036 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight..... | | 18 23 |
| | 9037 | Wm. Schade, | | |
| | | Tools, Labor, etc..... | | 38 68 |
| | 9038 | T. W. Shacklett, | | |
| | | Services as Commissioner..... | | 150 00 |
| | 9039 | William Hardwick, | | |
| | | Services as Commissioner..... | | 150 00 |
| | 9040 | Clark Olds, | | |
| | | Services as Commissioner..... | | 150 00 |
| | 9041 | Constable Bros., | | |
| | | Labor and Material on Buildings..... | | 291 74 |
| | 9042 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 442 99 |
| | 9043 | Pay Roll—Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Secy... | | 665 00 |
| | 9044 | Peter McLeod, | | |
| | | Estimate on Contract Altering Buildings..... | | 700 00 |
| | 9045 | Pay Roll—Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Secy... | | 866 66 |
| Total..... | | | | \$ 9,344 76 |

MAY.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|---------------------------|------------|----------------|
| 7 | 9046 | C. Kessler, | | |
| | | Baskets and Oil..... | \$ | 1 80 |
| | 9047 | Times Publishing Company, | | |
| | | Advertising..... | | 2 10 |
| | 9048 | Erie Gas Company, | | |
| | | Coke..... | | 2 47 |
| | 9049 | Wm. F. Nick & Son, | | |
| | | Varnish, etc..... | | 2 65 |
| | 9050 | P. J. Schotten, | | |
| | | Gravel..... | | 2 70 |
| | 9051 | A. S. Pinney, | | |
| | | Hardware and Tools..... | | 3 14 |
| | 9052 | Brown & Thomas, | | |
| | | Iron..... | | 3 14 |
| | 9053 | J. N. Blaisdell, | | |
| | | Horse Shoeing..... | | 4 00 |

WATER WORKS, IN THE CITY OF ERIE.

25

MAY—Continued.

TO PAY VOUCHER

| <i>Date, No.</i> | <i>Of For</i> | <i>Amount.</i> |
|------------------|---|----------------|
| 7 9054 | Held, Gorenflo & Co., Advertising.....\$ | 5 00 |
| 9055 | Mehl & Sapper, Hardware and Tools..... | 5 26 |
| 9056 | Patrick Doyle, Dressing..... | 6 80 |
| 9057 | J. M. Dunn, Brick..... | 7 87 |
| 9058 | Jas. L. Firman, Dressing..... | 9 20 |
| 9059 | The Dispatch Publishing Co., Advertising..... | 9 20 |
| 9060 | Erie Sand & Gravel Co., Sand..... | 9 90 |
| 9061 | David Schlosser, Lumber..... | 10 51 |
| 9062 | Lyman Felheim, Meter Boxes..... | 11 70 |
| 9063 | Zuck Hardware Co., Hardware and Tools | 12 27 |
| 9064 | Wm. Densmore & Co., Oats..... | 17 50 |
| 9065 | New York & Pennsylvania Telep. & Teleg. Co., Rental of Telephones..... | 18 75 |
| 9066 | E. J. Riblet, Shop Rent..... | 20 00 |
| 9067 | The Griswold Mfg. Co., Cups..... | 20 00 |
| 9068 | Dispatch Printing & Engraving Co., Ltd., Printing and Stationery..... | 20 00 |
| 9069 | Mutual Telephone Company, Rental of Telephones..... | 22 00 |
| 9070 | Pennsylvania Company, Cross Ties and Spikes | 29 50 |
| 9071 | G. J. Gebhardt, Coal..... | 29 91 |
| 9072 | R. T. Walker, Barn Rent..... | 30 00 |
| 9073 | Globe Iron Foundry Co., Castings..... | 37 04 |
| 9074 | Jarecki Manufacturing Co., Fittings..... | 44 30 |
| 9075 | Erie Oil Works, Oil..... | 51 75 |
| 9076 | Hays Manufacturing Co., Fittings and Pipe..... | 80 44 |
| 9077 | Ashby & Vincent, Printing and Stationery..... | 96 23 |
| 9078 | Union Water Meter Company, Meter..... | 99 01 |
| 9079 | O. C. Thayer & Son, Cement and Pipe..... | 114 19 |
| 9080 | Erie Mfg. & Supply Co., Hose, Tools, Valves, Waste, etc..... | 127 14 |

MAY—Continued.**TO PAY VOUCHER.**

| <i>Date. No.</i> | <i>Of For</i> | <i>Amount.</i> |
|------------------|--|----------------|
| 7 9081 | R. D. Wood & Co., Valves..... | \$ 165 00 |
| 9082 | Youghiogheny River Coal Company, Coal..... | 250 01 |
| 9083 | Momeyer & Graf, Coal..... | 352 38 |
| 9084 | Henry R. Worthington, Packing..... | 503 50 |
| 9085 | Jos. H. King & Co., Teaming..... | 31 65 |
| 9086 | Geo. C. Gensheimer, Assistant Secretary, Sundries..... | 49 06 |
| 9087 | Herald Printing & Publishing Co., Advertising and Stationery..... | 8 40 |
| 9088 | W. P. Mason, Analyses of Water..... | 51 00 |
| 9089 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | 499 75 |
| 9090 | Constable Bros., Labor and Material on Buildings..... | 19 10 |
| 14 9091 | F. R. Dravo, Professional Services..... | 34 80 |
| 9092 | Geo. C. Gensheimer, Assistant Secretary, Sundries..... | 67 31 |
| 9093 | Peter McLeod, Estimate on Contract Altering Building..... | 100 00 |
| 9094 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | 439 25 |
| 21 9095 | Geo. C. Gensheimer, Assistant Secretary Sundries..... | 33 09 |
| 9096 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | 592 18 |
| 28 9097 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | 793 59 |
| 9098 | Geo. C. Gensheimer, Assistant Secretary, Sundries..... | 8 23 |
| Total..... | | \$4,966 27 |

JUNE.**TO PAY VOUCHER.**

| <i>Date. No.</i> | <i>Of For</i> | <i>Amount.</i> |
|------------------|---|----------------|
| 1 9099 | A. E. Sisson, Legal Services..... | \$ 75 00 |
| 9100 | The Lake Shore and Michigan Southern Ry. Co., Freight..... | 341 59 |
| 9101 | Pay Roll—Pumping Station, Disbursed by Geo. C. Gensheimer, Ass't Secy... | 720 00 |
| 9102 | Pay Roll—Office and Inspectors, Disbursed by Geo. C. Gensheimer, Ass't Secy... | 866 66 |
| 9103 | E. J. Morton, Sewer Jacks..... | 85 42 |

JUNE—Continued.

TO PAY VOUCHER.

| <i>Date. No.</i> | <i>Of For</i> | <i>Amount.</i> |
|------------------|--|----------------|
| 2 9104 | John Wahl Commission Co., Pig Lead..... | \$ 1,160 04 |
| 4 9105 | The Flickinger Roofing and Cornice Co. Ltd., Tools..... | 2 20 |
| 9106 | G. J. Gebhardt, Wood..... | 2 25 |
| 9107 | Erie Sand and Gravel Co., Sand..... | 3 00 |
| 9108 | Pennsylvania Company, Spikes, Splice Bars and Bolts,..... | 3 20 |
| 9109 | Lyman Felheim, Meter Box..... | 4 35 |
| 9110 | J. Jacobs, Oil Clothing..... | 5 00 |
| 9111 | Bauman & Son, Cleaning and Repairing Carpet..... | 5 25 |
| 9112 | Mehl & Sapper, Hardware and Tools..... | 6 20 |
| 9113 | Henry J. Sevin, Mounting and Framing Map..... | 6 25 |
| 9114 | J. M. Dunn, Brick..... | 6 30 |
| 9115 | Emil Streuber, Leather..... | 6 30 |
| 9116 | Wm. F. Nick & Son, Oil, Paint etc,..... | 6 53 |
| 9117 | Erie Window Glass Co., Glass..... | 6 72 |
| 9118 | Erie Machine Shop, Bolts, Washers, Labor..... | 7 10 |
| 9119 | National Meter Company, Meter Repairs..... | 7 11 |
| 9120 | A. J. Louch, Hose..... | 7 50 |
| 9121 | A. T. Adams, Horse Shoeing..... | 8 00 |
| 9122 | Henry Beckman & Son, Grass Seed..... | 8 25 |
| 9123 | Wm. Schade, Braces, Tools, etc..... | 8 36 |
| 9124 | C. Kessler, Blocks, Soap, etc,..... | 9 44 |
| 9125 | J. H. Braggins, Labor and Material on Buildings..... | 9 97 |
| 9126 | W. H. Maloney & Co., Trees..... | 10 00 |
| 9127 | Erie Gas Company, Coke..... | 10 11 |
| 9128 | Momeyer & Graf, Coke..... | 10 51 |
| 9129 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 18 10 |

REPORT OF THE COMMISSIONERS OF

JUNE—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of For</i> | <i>Amount.</i> |
|--------------|------------|--|----------------|
| 4 | 9130 | Wm. Densmore & Co., Oats..... | \$ 20 00 |
| | 9131 | E. J Riblet, Shop Rent..... | 20 00 |
| | 9132 | Keystone Electric Company, Electric Light Supplies | 33 85 |
| | 9133 | Lester J. Zuck, Hardware and Tools..... | 34 62 |
| | 9134 | The Mohawk Refining Co., Boiler Compound..... | 38 05 |
| | 9135 | David Schlosser, Lumber..... | 41 41 |
| | 9136 | Jarecki Manufacturing Co., Fittings..... | 46 14 |
| | 9137 | Union Water Meter Company, Meter and Repairs..... | 58 20 |
| | 9138 | Globe Iron Foundry Co., Castings..... | 66 22 |
| | 9139 | O. C. Thayer & Son, Cement, Pipe, etc..... | 69 11 |
| | 9140 | The Atlantic Refining Co., Oil..... | 97 84 |
| | 9141 | Erie Mfg. and Supply Co., Hose, Valves, Pipe Covering, etc..... | 125 80 |
| | 9142 | Peter McLeod, Estimate on Contract Altering Building..... | 145 70 |
| | 9143 | Joseph H. King & Co., Teaming..... | 175 27 |
| | 9144 | R. D. Wood & Co., Fire Hydrants and Valves..... | 400 00 |
| | 9145 | C. N. Hathaway, Mason Work..... | 2 80 |
| | 9146 | A. S. Pinney, Hardware and Tools..... | 6 62 |
| | 9147 | J. O. Jones, Repairing Roof..... | 13 54 |
| | 9148 | Hays Manufacturing Co., Fittings..... | 125 02 |
| | 9149 | Pay Roll—Street Work Disbursed by M. L. Whitley, Clerk..... | 851 18 |
| 7 | 9150 | John Wahl Commission Co., Pig Lead..... | 1,741 45 |
| 11 | 9151 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 9 30 |
| | 9152 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 967 73 |
| 16 | 9153 | Skinner Engine Company, On Contract Automatic Engine..... | 300 00 |
| 18 | 9154 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 776 94 |
| 23 | 9155 | The National Carbon Co., Carbons..... | 23 39 |

JUNE—Continued.**TO PAY VOUCHER.**

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|-------------------|------------|--|------------|---------------------|
| 25 | 9156 | Geo. C. Gensheimer, Ass't Secy., | | |
| | | Sundries..... | \$ | 48 12 |
| | 9157 | Skinner Engine Company, | | |
| | | On Contract Automatic Engine..... | | 170 00 |
| | 9158 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 920 41 |
| | 9159 | Keystone Electric Company. | | |
| | | On Contract Electric Light Plant..... | | 1,500 00 |
| Total..... | | | | \$ 12,255 42 |

JULY.**TO PAY VOUCHER.**

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|---|------------|----------------|
| 1 | 9160 | T. W. Shacklett, | | |
| | | Services as Commissioner..... | \$ | 150 00 |
| | 9161 | William Hardwick, | | |
| | | Services as Commissioner..... | | 150 00 |
| | 9162 | Clark Olds, | | |
| | | Services as Commissioner... .. | | 150 00 |
| | 9163 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight..... | | 401 47 |
| | 9164 | Erie Painting & Decorating Co., | | |
| | | To Apply on Contract Painting..... | | 500 00 |
| | 9165 | Pay Roll—Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Secy... .. | | 720 00 |
| | 9166 | Pay Roll—Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Secy... .. | | 866 66 |
| | 9167 | Board of Commissioners of the Sinking Fund, | | |
| | | Sinking Fund, City of Erie..... | | 5,000 00 |
| 2 | 9168 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 872 97 |
| | 9169 | Geo. C. Gensheimer, Ass't Secy., | | |
| | | Sundries..... | | 10 01 |
| | 9170 | Sam B. Kennedy Jr., Agent, | | |
| | | Lawn Sprinklers..... | | 15 00 |
| 7 | 9171 | Keystone Electric Company, | | |
| | | On Contract Electric Light Plant..... | | 1,000 00 |
| 11 | 9172 | Pay Roll—Street Work, | | |
| | | Disbursed by John Kolb, Book Keeper..... | | 707 75 |
| | 9173 | T. W. Mahany, | | |
| | | Pails and Rolled Oats..... | | 2 00 |
| | 9174 | Hollands Mfg. Co., | | |
| | | Tools..... | | 2 02 |
| | 9175 | Skinner Engine Company, | | |
| | | Piece of Boiler Plate..... | | 2 68 |
| | 9176 | Mehl & Sapper, | | |
| | | Hardware..... | | 3 30 |
| | 9177 | Erie Heating & Plumbing Co., | | |
| | | Plumbing Material..... | | 3 65 |
| | 9178 | John J. O'Brien, | | |
| | | Printing..... | | 4 25 |

JULY—Continued.

TO PAY VOUCHER.

| <i>Date. No.</i> | <i>Of For</i> | <i>Amount.</i> |
|------------------|--|----------------|
| 11 9179 | Brown & Thomas, Iron Rails..... | \$ 4 50 |
| 9180 | Erie Gas Company, Coke..... | 4 71 |
| 9181 | A. T. Adams, Horse Shoeing..... | 4 80 |
| 9182 | Murphy Bros., Water Cooler..... | 5 00 |
| 9183 | The Atlantic Refining Company, Oil..... | 6 00 |
| 9184 | Mutual Telephone Company, Rental of Telephone..... | 6 00 |
| 9185 | C. Kessler, Brooms, Baskets, etc..... | 6 47 |
| 9186 | Lake Shore Brick Works, Brick..... | 6 60 |
| 9187 | J. Kretz, Agent, Rope—Old..... | 6 90 |
| 9188 | A. J. Louch, Tools..... | 8 26 |
| 9189 | Henry A. Niemeyer, Material at Reservoir..... | 10 00 |
| 9190 | F. H. Leland, Testing Electric Light Plant..... | 10 00 |
| 9191 | Adolph Brugger, Wooden Plugs..... | 12 15 |
| 9192 | Henry Beckman & Son, Blocks, Rope, Oars, etc..... | 13 57 |
| 9193 | Winschel & Company, Carpet for Office..... | 15 73 |
| 9194 | Lester J. Zuck, Hardware and Tools..... | 16 52 |
| 9195 | Wm. F. Nick & Son, Oils and Paints..... | 16 69 |
| 9196 | Ashby & Vincent, Indexing Books and Stationery..... | 17 95 |
| 9197 | New York & Penna. Telep. and Teleg. Co., Rental of Telephone..... | 18 75 |
| 9198 | E. J. Riblet, Shop Rent..... | 20 00 |
| 9199 | Wm. Densmore & Co., Oats..... | 20 00 |
| 9200 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 22 69 |
| 9201 | Titus Berst, Flower Beds at Pumping Station..... | 36 00 |
| 9202 | Peter Koole, Repairing Boats..... | 36 07 |
| 9203 | Pennsylvania Company, Cinders..... | 40 18 |
| 9204 | Erie Machine Shop, Engine Repairs..... | 42 10 |
| 9205 | Stearns Manufacturing Co., Drawing Boards..... | 54 00 |

JULY—Continued.

| | | TO PAY VOUCHER. | | |
|------------------|---|-----------------|-----|----------------|
| <i>Date. No.</i> | <i>Of For</i> | | | <i>Amount.</i> |
| 11 9206 | David Schlosser, | | | |
| | Lumber..... | \$ | 61 | 07 |
| 9207 | Erie Oil Works, | | | |
| | Oil..... | | 65 | 70 |
| 9208 | The Crandall Fence & Iron Co., | | | |
| | Lawn Settees..... | | 77 | 00 |
| 9209 | J. M. Dunn, | | | |
| | Brick..... | | 82 | 00 |
| 9210 | Young Bros., | | | |
| | Rope—Old..... | | 90 | 00 |
| 9211 | Hays Manufacturing Co., | | | |
| | Fittings..... | | 94 | 69 |
| 9212 | Constable Bros., | | | |
| | Labor and Material on Buildings..... | | 102 | 58 |
| 9213 | Globe Iron Foundry Co., | | | |
| | Castings..... | | 109 | 63 |
| 9214 | O. C. Thayer & Son, | | | |
| | Cement and Pipe..... | | 111 | 10 |
| 9215 | Mayer Bros., | | | |
| | Repairs to Asphalt Pavements... .. | | 140 | 71 |
| 9216 | Joseph H. King & Co., | | | |
| | Teaming..... | | 232 | 40 |
| 9217 | F. A. Mizener, | | | |
| | Coal..... | | 245 | 46 |
| 9218 | Erie Mfg. & Supply Co., | | | |
| | Fittings, Tools, etc..... | | 476 | 62 |
| 16 9219 | F. P. Gill, | | | |
| | Cupboard..... | | 5 | 00 |
| 9220 | A. J. Louch, | | | |
| | Awning and Frame..... | | 7 | 00 |
| 9221 | Geo C. Gensheimer, Ass't Secy, | | | |
| | Sundries..... | | 27 | 09 |
| 9222 | Erie City Iron Works, | | | |
| | Labor and Material on Boilers..... | | 70 | 22 |
| 9223 | Keystone Electric Company, | | | |
| | On Contract Electric Light Plant..... | | 183 | 68 |
| 9224 | Erie Painting & Decorating Co., | | | |
| | On Contract Painting..... | | 420 | 01 |
| 9225 | Globe Iron Foundry Co., | | | |
| | Castings..... | | 140 | 70 |
| 9226 | Pay Roll—Street Work, | | | |
| | Disbursed by John Kolb, Book Keeper..... | | 869 | 09 |
| 23 9227 | Pay Roll—Street Work, | | | |
| | Disbursed by M. L. Whitley, Clerk..... | | 915 | 99 |
| 25 9228 | The Lake Shore & Michigan Southern Ry. Co., | | | |
| | Freight..... | | 288 | 08 |
| 30 9229 | Geo. C. Gensheimer, Ass't Secy., | | | |
| | Sundries..... | | 16 | 31 |
| 9230 | Pay Roll—Pumping Station, | | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Secy.... | | 720 | 00 |
| 9231 | Pay Roll—Office and Inspectors, | | | |
| | Disbursed by Geo C. Gensheimer, Ass't Secy..... | | 866 | 66 |
| 9232 | Pay Roll—Street Work, | | | |
| | Disbursed by M. L. Whitley, Clerk..... | | 921 | 01 |
| Total..... | | | | \$ 18,363 20 |

AUGUST.

TO PAY VOUCHER.

| <i>Date. No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|------------------|---|---|----------------|
| 6 9233 | Skinner Engine Company, | Oil Feeder..... | \$ 2 00 |
| 9234 | Times Publishing Company, | Advertising..... | 2 13 |
| 9235 | Wm. F. Nick & Son, | Lead, Oil, etc..... | 2 55 |
| 9236 | Murphy Bros., | Funnel and Ventilator..... | 2 65 |
| 9237 | H. G. Fink, | Stakes..... | 2 75 |
| 9238 | Fire and Water, | One Year's Subscription..... | 3 00 |
| 9239 | Geo. Schlindwein, | Repairing Harness..... | 3 00 |
| 9240 | Herald Printing & Publishing Co., | Advertising..... | 4 00 |
| 9241 | Held, Gorenflo & Co., | Advertising..... | 4 00 |
| 9242 | Edison Construction and Supply Department, | Iron Conduit..... | 5 00 |
| 9243 | Ashby & Vincent, | Stationery..... | 5 16 |
| 9244 | A. T. Adams, | Horse Shoeing | 5 20 |
| 9245 | C. Kessler | Bunting, Soap, etc | 7 99 |
| 9246 | Lyman Felheim, | Meter Boxes | 9 00 |
| 9247 | The Dispatch Publishing Co., | Advertising..... | 9 60 |
| 9248 | The Flickinger Roofing & Cornice Co., Ltd., | Lanterns and Pails | 11 30 |
| 9249 | G. J. Gebhardt, | Coal and Wood..... | 14 25 |
| 9250 | Lester J. Zuck, | Hardware and Tools..... | 16 65 |
| 9251 | Erie Machine Shop, | Tools and Labor..... | 17 50 |
| 9252 | Herald Printing & Publishing Co., | Stationery..... | 18 80 |
| 9253 | Wm. Densmore & Co., | Bran and Oats..... | 18 90 |
| 9254 | E. J. Riblet, | Shop Rent..... | 20 00 |
| 9255 | Robt. J. Saltsman, | Coal and Wood..... | 24 00 |
| 9256 | The Crouse-Tremaine Carbon Co., | Carbons and Bottoms..... | 24 74 |
| 9257 | David Schlosser, | Lumber..... | 28 64 |
| 9258 | Constable Bros., | Labor and Material on Buildings..... | 31 06 |
| 9259 | J. C. Elviage, | Professional Services and Use of Horse..... | 36 00 |

AUGUST—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|---|------------|----------------|
| 6 | 9260 | Mutual Telephone Company, | | |
| | | Telephone Rental..... | \$ | 42 00 |
| | 9261 | Geo. C. Gensheimer, Assistant Secretary, | | |
| | | Sundries..... | | 45 95 |
| | 9262 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight..... | | 58 88 |
| | 9263 | D. Long, Collector, | | |
| | | Taxes..... | | 59 75 |
| | 9264 | Isador Sobel, Postmaster, | | |
| | | Postal Cards..... | | 60 00 |
| | 9265 | O. C. Thayer & Son, | | |
| | | Cement and Tile..... | | 71 94 |
| | 9266 | J. M. Dunn, | | |
| | | Brick | | 87 67 |
| | 9267 | The Atlantic Refining Company, | | |
| | | Oil..... | | 96 32 |
| | 9268 | Union Water Meter Company, | | |
| | | Meters..... | | 104 34 |
| | 9269 | Henry R. Worthington, | | |
| | | Pump..... | | 120 00 |
| | 9270 | Hays Manufacturing Co., | | |
| | | Fittings, etc..... | | 137 84 |
| | 9271 | Joseph H. King & Co., | | |
| | | Teaming..... | | 142 02 |
| | 9272 | Erie Mfg. & Supply Co., | | |
| | | Injector, Tools, Valves..... | | 212 07 |
| | 9273 | F. A. Sherrer, | | |
| | | Sustaining Wall.... | | 280 00 |
| | 9274 | F. A. Mizener, | | |
| | | Coal..... | | 507 31 |
| | 9275 | R. D. Wood & Co., | | |
| | | Fire Hydrants and Stop Valves..... | | 746 50 |
| | 9276 | Momeyer & Graf, | | |
| | | Coal and Coke..... | | 24 40 |
| | 9277 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 990 50 |
| 13 | 9278 | Geo. C. Gensheimer, Assistant Secretary, | | |
| | | Sundries..... | | 25 94 |
| | 9279 | Mayer Bros., | | |
| | | Repairs to Pavement..... | | 333 09 |
| | 9280 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 957 63 |
| 20 | 9281 | John Stubbe, | | |
| | | Repairs to Pavement..... | | 20 13 |
| | 9282 | Keller & Nerz, | | |
| | | Stone... .. | | 35 00 |
| | 9283 | Pennsylvania Company, | | |
| | | Cinders..... | | 40 18 |
| | 9284 | Lake Shore Brick Works, | | |
| | | Brick..... | | 461 10 |
| | 9285 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 915 85 |
| 27 | 9286 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight..... | | 25 50 |

REPORT OF THE COMMISSIONERS OF

AUGUST—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|---|------------|----------------|
| 27 | 9287 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | \$ | 921 45 |
| 31 | 9288 | T. W. Shacklett, | | |
| | | Services as Commissioner. | | 150 00 |
| | 9289 | William Hardwick, | | |
| | | Services as Commissioner..... | | 150 00 |
| | 9290 | Clark Olds, | | |
| | | Services as Commissioner..... | | 150 00 |
| | 9291 | Pay Roll—Pumping Station, | | |
| | | Disbursed by John Kolb, Acting Ass't Sec'y..... | | 720 00 |
| | 9292 | Pay Roll—Office and Inspectors, | | |
| | | Disbursed by John Kolb, Acting Ass't Sec'y..... | | 866 66 |
| Total..... | | | | \$ 9,889 89 |

SEPTEMBER.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|------------|----------------|
| 3 | 9293 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | \$ | 964 45 |
| | 9294 | T. S. Buck, | | |
| | | Dating Stamp..... | | 2 08 |
| | 9295 | McIntire & Tanner, | | |
| | | S. C. Faucet..... | | 2 25 |
| | 9296 | G. J. Gebhardt, | | |
| | | Wood..... | | 2 25 |
| | 9297 | Baas & Althof, | | |
| | | Wire Screen..... | | 2 50 |
| | 9298 | Mehl & Sapper, | | |
| | | Hardware and Tools..... | | 2 72 |
| | 9299 | Keystone Electric Company, | | |
| | | Carbons and Holders | | 2 75 |
| | 9300 | Harry Thompson, | | |
| | | Repairing Coupon Cutters..... | | 2 75 |
| | 9301 | Wm. F. Nick & Son, | | |
| | | Oil, Paint and Brushes..... | | 4 28 |
| | 9302 | The Flickinger Roofing and Cornice Co. Ltd., | | |
| | | Pails, Plunger, Labor, etc..... | | 7 65 |
| | 9303 | Keystone Rubber Works, | | |
| | | Packing..... | | 8 10 |
| | 9304 | Lyman Felheim, | | |
| | | Meter Boxes..... | | 8 70 |
| | 9305 | W. E. Hayes & Co., | | |
| | | Lamps, Chimneys, Wicks..... | | 8 75 |
| | 9306 | C. Kessler, | | |
| | | Baskets, Brooms, etc..... | | 9 43 |
| | 9307 | Erie Steam Bending Works, | | |
| | | Stakes..... | | 10 00 |
| | 9308 | Conrad J. Brown, | | |
| | | Hay..... | | 10 60 |

SEPTEMBER—Continued.**TO PAY VOUCHER.**

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|---|------------|----------------|
| 3 | 9309 | The Atlantic Refining Company, | | |
| | | Oil..... | \$ | 11 25 |
| | 9310 | The Henesey Mfg. Co., | | |
| | | Leather Washers..... | | 12 00 |
| | 9311 | South Erie Iron Works, | | |
| | | Castings..... | | 13 32 |
| | 9312 | Lester J. Zuck, | | |
| | | Hardware and Tools..... | | 13 39 |
| | 9313 | E. J. Riblet, | | |
| | | Shop Rent..... | | 20 00 |
| | 9314 | A. S. Pinney, | | |
| | | Hardware and Tools..... | | 18 40 |
| | 9315 | Dispatch Printing & Engraving Co., Ltd., | | |
| | | Printing and Stationery..... | | 23 50 |
| | 9316 | Wm. Schade, | | |
| | | Boiler and Engine Repairs..... | | 30 47 |
| | 9317 | Pittsburgh Meter Company, | | |
| | | Meters..... | | 35 75 |
| | 9318 | F. P. Gill, | | |
| | | Labor, Patterns, etc..... | | 40 60 |
| | 9319 | O. C. Thayer & Son, | | |
| | | Cement and Pipe..... | | 57 28 |
| | 9320 | Erie Oil Works, | | |
| | | Oil..... | | 68 05 |
| | 9321 | Geo. C. Gensheimer, Ass't Secy., | | |
| | | Sundries..... | | 77 86 |
| | 9322 | Keystone Brass Co., | | |
| | | Railings and Fittings..... | | 86 61 |
| | 9323 | Erie Mfg. and Supply Co., | | |
| | | Gaskets, Tools and Packing..... | | 88 08 |
| | 9324 | J. M. Dunn, | | |
| | | Brick..... | | 138 60 |
| | 9325 | Erie Machine Shop, | | |
| | | Repairing Engines..... | | 204 24 |
| | 9326 | Globe Iron Foundry Co. | | |
| | | Castings..... | | 210 55 |
| | 9327 | F. A. Mizener, | | |
| | | Coal..... | | 329 53 |
| | 9328 | Union Water Meter Company, | | |
| | | Meters..... | | 345 05 |
| | 9329 | R. D. Wood & Co., | | |
| | | Fire Hydrants and Stop Valves..... | | 720 94 |
| | 9330 | Lake Shore Foundry, | | |
| | | Pipe..... | | 841 54 |
| | 9331 | Board of Commissioners of the Sinking Fund of the | | |
| | | City of Erie, | | |
| | | The Sinking Fund City of Erie..... | | 5,000 00 |
| | 9332 | Austin Separator Co., | | |
| | | Separator..... | | 26 64 |
| 10 | 9333 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 593 75 |
| | 9334 | L. H. Hall, | | |
| | | Painting..... | | 6 00 |

SEPTEMBER—Continued.**TO PAY VOUCHER.**

| <i>Date. No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|------------------|---|------------|----------------|
| 17 9335 | Geo. C. Gensheimer, Ass't Secy., | | |
| | Sundries..... | \$ | 4 02 |
| 9336 | Pay Roll—Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk..... | | 672 93 |
| 9337 | Richard Gebele, | | |
| | Trimming Trees..... | | 6 50 |
| 24 9338 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | Freight..... | | 9 00 |
| 9339 | Pay Roll—Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk..... | | 573 25 |
| Total..... | | | \$ 11,328 36 |

OCTOBER.**TO PAY VOUCHER.**

| <i>Date. No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|------------------|--|------------|----------------|
| I 9340 | Geo. C. Gensheimer, Ass't Secy., | | |
| | Sundries..... | \$ | 62 96 |
| 9341 | John Stubbe, | | |
| | Repairing Pavement..... | | 232 25 |
| 9342 | Pay Roll—Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk..... | | 588 31 |
| 9343 | Pay Roll—Pumping Station, | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Secy... | | 720 00 |
| 9344 | Pay Roll—Office and Inspectors, | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Secy... | | 866 66 |
| 8 9345 | Jas. H. Matthews & Co., | | |
| | Stamp and Pad..... | | 1 32 |
| 9346 | Culhane & Joslin, | | |
| | Labor..... | | 1 75 |
| 9347 | A. S. Pinney, | | |
| | Hardware and Tools..... | | 2 26 |
| 9348 | Skinner Engine Company, | | |
| | Difference in Valves..... | | 2 50 |
| 9349 | National Meter Company, | | |
| | Meter Counter..... | | 2 71 |
| 9350 | A. V. Fox, | | |
| | Horse Shoeing..... | | 4 00 |
| 9351 | W. H. Dickson, | | |
| | Dynamite, Caps and Fuse..... | | 4 07 |
| 9352 | C. Kessler, | | |
| | Soap, Gold Dust, etc..... | | 5 68 |
| 9353 | A. T. Adams, | | |
| | Horse Shoeing..... | | 6 00 |
| 9354 | Lester J. Zuck, | | |
| | Hardware and Tools..... | | 6 37 |
| 9355 | Herald Printing & Publishing Co., | | |
| | Books..... | | 7 65 |
| 9356 | Union Ice Company, | | |
| | Ice..... | | 7 65 |

OCTOBER—Continued.

TO PAY VOUCHER.

| <i>Date. No.</i> | <i>Of For</i> | <i>Amount</i> |
|------------------|--|---------------|
| 8 9357 | The Lake Shore & Michigan Southern Ry. Co., Freight..... | 9 00 |
| 9358 | Erie Steam Bending Works, Stakes..... | 15 00 |
| 9359 | Wm. Densmore & Co., Oats..... | 17 50 |
| 9360 | Not Issued | |
| 9361 | J. M. Dunn, Brick..... | 19 95 |
| 9362 | Momeyer & Graf, Coke..... | 19 99 |
| 9363 | Adolph Brugger, Wooden Plugs..... | 22 70 |
| 9364 | E. J. Riblet, Shop Rent and Stool..... | 22 75 |
| 9365 | Wm. Schade, Blacksmithing | 25 05 |
| 9366 | Dr. J. C. Elviage, Professional Services and use of Horses..... | 26 25 |
| 9367 | Constable Bros., Labor and Material on Buildings..... | 26 60 |
| 9368 | Globe Iron Foundry Co , Castings..... | 51 02 |
| 9369 | The National Carbon Co., Carbons..... | 54 45 |
| 9370 | O. C. Thayer & Son, Cement and Pipe..... | 57 70 |
| 9371 | F. A. Sherrer, Stone | 61 00 |
| 9372 | Erie Mfg. & Supply Co., Packing, Valves. etc..... | 78 72 |
| 9373 | The Atlantic Refining Company, Oil..... | 97 33 |
| 9374 | Hays Manufacturing Co., Fittings..... | 136 54 |
| 9375 | R. D. Wood & Co., Valves..... | 244 02 |
| 9376 | F. A. Mizener, Coal..... | 295 48 |
| 9377 | The Fairbanks Company, Pressure Regulators..... | 393 81 |
| 9378 | Jarecki Manufacturing Co., Valves, Fittings..... | 399 24 |
| 9379 | Wm. F. Nick & Son, Varnish, etc..... | 1 10 |
| 9380 | Geo. C. Gensheimer, Ass't Secy , Sundries..... | 6 45 |
| 9381 | Frank P. Thayer, Sod and Gravel..... | 27 00 |
| 9382 | Charles C. Shirk, City Treasurer, Sewer Assessment | 57 80 |
| 9383 | Joseph H. King & Co., Teaming..... | 116 92 |

REPORT OF THE COMMISSIONERS OF

OCTOBER—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|---|------------|----------------|
| 8 | 9384 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | \$ | 563 38 |
| 15 | 9385 | Geo. C. Gensheimer, Ass't Secy., | | |
| | | Sundries..... | | 5 73 |
| | 9386 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 507 22 |
| 22 | 9387 | Geo. C. Gensheimer, Ass't Secy., | | |
| | | Sundries..... | | 9 59 |
| | 9388 | Pennsylvania Company, | | |
| | | Cinder and Switching Charges..... | | 23 40 |
| | 9389 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight..... | | 23 55 |
| | 9390 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 411 91 |
| | 9391 | S. A. Davenport, | | |
| | | Retainer and Professional Services in full for | | |
| | | Four Years..... | | 600 00 |
| 29 | 9392 | Mayer Bros., | | |
| | | Repairing Pavements..... | | 105 95 |
| | 9393 | T. W. Shacklett, | | |
| | | Services as Commissioner..... | | 150 00 |
| | 9394 | William Hardwick, | | |
| | | Services as Commissioner..... | | 150 00 |
| | 9395 | Clark Olds, | | |
| | | Services as Commissioner..... | | 150 00 |
| | 9396 | A. E. Sisson, | | |
| | | Buildings and Grounds..... | | 240 00 |
| | 9397 | Pay Roll—Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 449 17 |
| | 9398 | Pay Roll—Pumping Station. | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Secy.... | | 720 00 |
| | 9399 | Pay Roll—Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Secy... | | 866 66 |
| | 9400 | Frank P. Thayer, | | |
| | | Sod and Gravel..... | | 46 50 |
| Total..... | | | | \$ 9,828 57 |

NOVEMBER.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|-----------------------------------|------------|----------------|
| 2 | 9401 | Pennsylvania Company, | | |
| | | Freight..... | \$ | 37 71 |
| 5 | 9402 | A. J. Louch, | | |
| | | Hose..... | | 6 85 |
| | 9403 | Geo. C. Gensheimer, Ass't. Secy., | | |
| | | Sundries..... | | 34 99 |
| | 9404 | F. P. Gill, | | |
| | | Pattern Work..... | | 58 30 |
| | 9405 | F. A. Mizener, | | |
| | | Coal..... | | 375 98 |

NOVEMBER—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|---|------------|----------------|
| 5 | 9406 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | \$ | 491 43 |
| 12 | 9407 | Geo. C. Gensheimer, Ass't. Secy., Sundries..... | | 11 10 |
| | 9408 | Pennsylvania Company, Freight..... | | 15 12 |
| | 9409 | The Lake Shore & Michigan Southern Ry. Co., Freight..... | | 26 06 |
| | 9410 | Jos. H. King & Co., Teaming..... | | 46 59 |
| | 9411 | Thos. H. Dallett & Co., Drill..... | | 50 00 |
| | 9412 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | | 342 63 |
| 21 | 9413 | Pennsylvania Company, Freight..... | | 16 07 |
| | 9414 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | | 27 64 |
| | 9415 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | | 397 14 |
| 26 | 9416 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | | 317 25 |
| Total..... | | | | \$ 2,254 86 |

DECEMBER.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|------------|----------------|
| 1 | 9417 | Pay Roll—Pumping Station, Disbursed by Geo. C. Gensheimer, Ass't Secy.... | \$ 720 00 | |
| | 9418 | Pay Roll—Office and Inspectors, Disbursed by Geo. C. Gensheimer, Ass't Secy.... | 866 66 | |
| 3 | 9419 | John Stubbe, Repairing Pavement..... | 1 10 | |
| | 9420 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 5 90 | |
| | 9421 | Henry Herbst, Collector, Taxes..... | 218 75 | |
| | 9422 | F. A. Mizener, Coal..... | 226 57 | |
| | 9423 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 315 27 | |
| 10 | 9424 | Geo. C. Gensheimer, Ass't Secy., Sundries..... | 3 99 | |
| | 9425 | The Erie Painting & Decorating Co., Painting..... | 4 13 | |
| | 9426 | A. V. Fox, Horse Shoeing..... | 4 80 | |
| | 9427 | The Dispatch Publishing Co., Advertising..... | 9 85 | |

DECEMBER—Continued.**TO PAY VOUCHER.**

| <i>Date.</i> | <i>No.</i> | <i>Of For</i> | <i>Amount.</i> |
|--------------|------------|--|----------------|
| 10 | 9428 | Jos. H. King & Co., Teaming..... | \$ 13 93 |
| | 9429 | Wm. Schade, Blacksmithing and Tools..... | 15 50 |
| | 9430 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 273 85 |
| 17 | 9431 | Held, Gorenflo & Co., Advertising..... | 4 40 |
| | 9432 | Herald Printing & Publishing Co., Books and Stationery..... | 8 00 |
| | 9433 | R. T. Walker, Barn Rent..... | 30 00 |
| | 9434 | Dispatch Printing & Engraving Co., Ltd., Printing and Stationery..... | 30 00 |
| | 9435 | Times Publishing Company, Printing and Stationery..... | 78 00 |
| | 9436 | Herald Printing & Publishing Co., Books and Stationery..... | 89 90 |
| | 9437 | Isador Sobel, Postmaster, Postage Stamps..... | 100 00 |
| | 9438 | T. W. Shacklett, Services as Commissioner..... | 150 00 |
| | 9439 | William Hardwick, Services as Commissioner..... | 150 00 |
| | 9440 | Clark Olds, Services as Commissioner..... | 150 00 |
| | 9441 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk..... | 190 19 |
| | 9442 | Pay Roll—Pumping Station, Disbursed by Geo. C. Gensheimer, Ass't Secy... | 720 00 |
| | 9443 | Pay Roll—Office and Inspectors, Disbursed by Geo. C. Gensheimer, Ass't Secy... | 866 74 |
| | 9444 | Board of Commissioners of the Sinking Fund, of the City of Erie, City of Erie, Sinking Fund..... | 15,000 00 |
| 24 | 9445 | Pay Roll—Street Work, Disbursed by M. L. Whitley, Clerk. | 222 14 |
| | 9446 | Wm. F. Nick & Son, Varnish and Turpentine..... | 1 35 |
| | 9447 | Skinner Engine Company Governor Grease..... | 1 50 |
| | 9448 | August Jarecki, Repairing Clock..... | 1 50 |
| | 9449 | The Taper Sleeve Pulley Works, Turning Valves..... | 2 00 |
| | 9450 | Geo. Schlindwein, Repairing Harness..... | 2 30 |
| | 9451 | Murphy Bros., Tools..... | 2 50 |
| | 9452 | Henry Mayo & Son, Carbon Bag..... | 2 50 |
| | 9453 | C. Kessler, Paris Green..... | 2 76 |
| | 9454 | Wm. F. Nick & Son, Oil and Varnish..... | 3 08 |

DECEMBER—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|------------|----------------|
| 24 | 9455 | Murphy Bros., | | |
| | | Nails and Tools..... | \$ | 3 35 |
| | 9456 | Adolph Brugger, | | |
| | | Wooden Plugs..... | | 4 25 |
| | 9457 | Lester J. Zuck, | | |
| | | Hardware and Tools..... | | 5 02 |
| | 9458 | Brown & Thomas, | | |
| | | Iron Rail..... | | 5 10 |
| | 9459 | Mehl & Sapper, | | |
| | | Hardware and Tools..... | | 5 12 |
| | 9460 | The Flickinger Roofing & Cornice Co., Ltd., | | |
| | | Pans and Labor..... | | 5 20 |
| | 9461 | A. S. Pinney, | | |
| | | Hardware and Tools..... | | 5 74 |
| | 9462 | Erie Gas Company, | | |
| | | Coke..... | | 5 89 |
| | 9463 | New York & Penna. Telephone and Telegraph Co., | | |
| | | Telephone Rental..... | | 6 00 |
| | 9464 | Emil Streuber, | | |
| | | Sole Leather..... | | 6 24 |
| | 9465 | Erie Gas Company, | | |
| | | Coke..... | | 6 25 |
| | 9466 | C. Kessler, | | |
| | | Brooms, Mops and Soap..... | | 7 40 |
| | 9467 | Mayer Bros., | | |
| | | Repairing Cuts in Pavement..... | | 8 33 |
| | 9468 | David Schlosser, | | |
| | | Lumber..... | | 8 57 |
| | 9469 | Lester J. Zuck, | | |
| | | Hardware and Tools..... | | 8 65 |
| | 9470 | Globe Iron Foundry Co., | | |
| | | Castings..... | | 9 21 |
| | 9471 | The Flickinger Roofing and Cornice Co., Ltd., | | |
| | | Tools, etc..... | | 9 44 |
| | 9472 | Kirschner Bros., | | |
| | | Use of Derrick..... | | 9 50 |
| | 9473 | A. V. Fox, | | |
| | | Horse Shoeing..... | | 9 60 |
| | 9474 | Lyman Felheim, | | |
| | | Meter Boxes..... | | 10 25 |
| | 9475 | Franklin Coal Co., | | |
| | | Coal..... | | 11 00 |
| | 9476 | Constable Bros., | | |
| | | Labor and Material on Buildings..... | | 11 46 |
| | 9477 | Henry R. Worthington, | | |
| | | Repairing Meter..... | | 12 30 |
| | 9478 | Keystone Electric Company, | | |
| | | Carbons, Wire, Fuse, etc..... | | 12 59 |
| | 9479 | Conrad J. Brown, | | |
| | | Hay..... | | 12 70 |
| | 9480 | Edison Construction and Supply Dept., | | |
| | | Electric Light Fittings..... | | 12 93 |
| | 9481 | Wm. Densmore & Co., | | |
| | | Oats..... | | 16 00 |

REPORT OF THE COMMISSIONERS OF

DECEMBER—Continued.

TO PAY VOUCHER.

| <i>Date.</i> | <i>No.</i> | <i>Of</i> | <i>For</i> | <i>Amount.</i> |
|--------------|------------|--|------------|----------------|
| 24 | 9482 | Erie Machine Shop, | | |
| | | Engine Repairs..... | \$ | 16 15 |
| | 9483 | Wm. Densmore & Co., | | |
| | | Oats..... | | 17 00 |
| | 9484 | Erie Sand & Gravel Co., | | |
| | | Sand and Gravel..... | | 17 50 |
| | 9485 | O. C. Thayer & Son, | | |
| | | Cement and Pipe..... | | 20 81 |
| | 9486 | Constable Bros., | | |
| | | Labor and Material on Buildings..... | | 25 25 |
| | 9487 | Globe Iron Foundry Co. | | |
| | | Castings..... | | 26 00 |
| | 9488 | South Erie Iron Works, | | |
| | | Castings..... | | 26 64 |
| | 9489 | The W. L. Scott Company, | | |
| | | Coal..... | | 31 01 |
| | 9490 | Erie Machine Shop, | | |
| | | Tools..... | | 31 08 |
| | 9491 | Union Ice Company, | | |
| | | Ice..... | | 36 20 |
| | 9492 | J. M. Dunn, | | |
| | | Brick..... | | 37 80 |
| | 9493 | Constable Bros., | | |
| | | Labor and Material on Buildings..... | | 37 81 |
| | 9494 | E. J. Riblet, | | |
| | | Shop Rent..... | | 40 00 |
| | 9495 | Mutual Telephone Company, | | |
| | | Telephone Rental..... | | 42 00 |
| | 9496 | Manning, Maxwell & Moore, | | |
| | | Harrington Hoist..... | | 45 00 |
| | 9497 | Jas. McCrea & Co., | | |
| | | Steam Joint Clamps..... | | 45 00 |
| | 9498 | South Erie Iron Works, | | |
| | | Castings..... | | 53 43 |
| | 9499 | Lyman Felheim, | | |
| | | Lumber..... | | 60 93 |
| | 9500 | O. C. Thayer & Son, | | |
| | | Cement, Clay, Pipe..... | | 65 43 |
| | 9501 | J. M. Dunn, | | |
| | | Brick..... | | 69 30 |
| | 9502 | Erie Oil Works, | | |
| | | Oil..... | | 82 49 |
| | 9503 | Globe Iron Foundry Co., | | |
| | | Castings..... | | 95 20 |
| | 9504 | Erie Mfg. & Supply Co., | | |
| | | Boiler Compound, Valves, Packing, etc..... | | 117 49 |
| | 9505 | Erie Mfg. & Supply Co., | | |
| | | Tools, Valves, Waste, etc..... | | 127 86 |
| | 9506 | Jones & Laughlin, Limited, | | |
| | | Iron Beams and Channels..... | | 131 64 |
| | 9507 | Ashby & Vincent, | | |
| | | Books and Stationery..... | | 133 05 |
| | 9508 | Lake Shore Foundry, | | |
| | | Pipe..... | | 824 93 |

WATER WORKS, IN THE CITY OF ERIE.

43

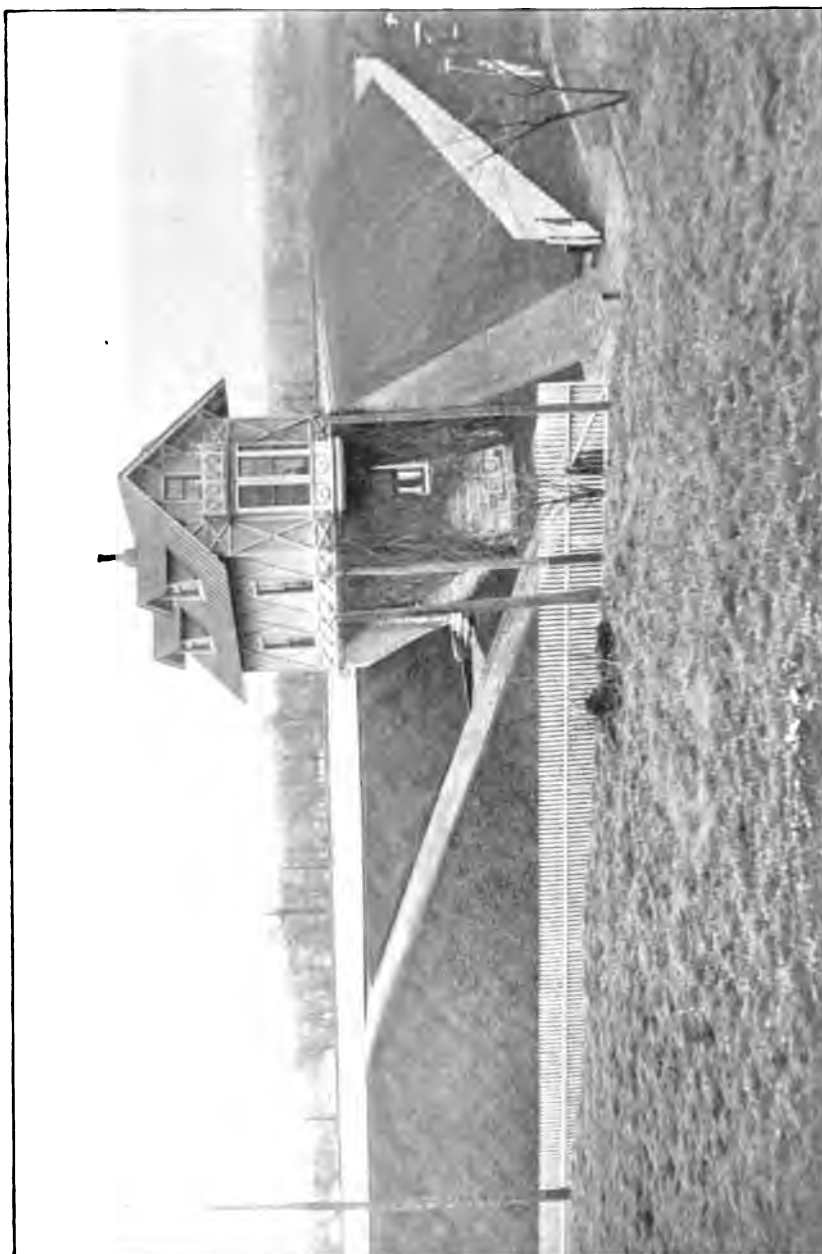
DECEMBER--Continued.

TO PAY VOUCHER.

| <i>Date. No.</i> | <i>Of For</i> | <i>Amount.</i> |
|------------------|--|----------------|
| 9509 | Geo. C. Gensheimer, Ass't Secy , Sundries..... | 20 01 |
| 9510 | H. F. Watson Company, Tar, Felt and Paste..... | 47 49 |
| 31 9511 | Pay Roll--Street Work, Disbursed by M. L. Whitley, Clerk..... | 188 14 |
| 9512 | F. A. Mizener, Coal..... | 165 50 |
| 9513 | Jarecki Manufacturing Co., Repairing Tools and Valves..... | 5 55 |
| 9514 | Hays Manufacturing Co., Fittings..... | 31 31 |
| 9515 | Jarecki Manufacturing Co., Fittings..... | 86 95 |
| 9516 | Hays Manufacturing Co., Fittings..... | 194 38 |
| Total..... | | \$23,713 58 |

RECAPITULATION, 1898.

| Number Vouchers Issued. | MONTH. | AMOUNTS. |
|-------------------------------|----------------|--------------|
| 30 | January..... | \$ 13,342 21 |
| 58 | February..... | 15,063 75 |
| 39 | March..... | 2,604 02 |
| 60 | April..... | 9 344 76 |
| 53 | May..... | 4,966 27 |
| 61 | June..... | 12,255 42 |
| 73 | July..... | 18,363 20 |
| 60 | August..... | 9,889 89 |
| 47 | September..... | 11,328 36 |
| 60 | October..... | 9,828 57 |
| 16 | November..... | 2,254 86 |
| 100 | December..... | 23,713 58 |
| 657 | Total..... | \$132,954 89 |



RESERVOIR.

***Extract from Report of J. W. Wright, M. D., Health Officer of
the City of Erie, for the Year 1897.***

The use of Mill Creek and other streams as sewers and the discharge of sewage through them into the bay is most deplorable and immediate steps should be taken toward the building of an intercepting sewer and the establishment of a sewage disposal plant where all the sewage of the city could be received and go through a complete process of purification. The cities of Reading, Pa., and Lawrence, Mass., are notable examples of what can be accomplished in the way of obtaining pure water from sewage, bacteriological examination of water obtained after passing through the filter beds showing it to be practically free from all forms of bacteria and perfectly safe for drinking purposes.

The use of Mill Creek as an open sewer cannot be too strongly condemned. Nevertheless, if its use for such purposes is continued, the bottom of the stream should be paved with brick. This would be a step toward its complete enclosure, an event which must surely follow its future use as a public sewer. Paving the bottom of the stream with brick would give a smooth surface for the water to run over, instead of a rough, uneven bottom, full of depressions in which filth accumulates to the detriment of the neighboring property and to the health of the people living in its vicinity.

Death rate of the City of Erie for the 23 years from 1876 to 1898, inclusive, with a tabulated statement of deaths from the principal contagious and infectious diseases during that period:

| Year. | Tuber- culosis. | Typhoid | Diph- theria. | Scarla- tina. | Small- pox. | Total Number Deaths. | Rate per 1,000. |
|-----------|--------------------|---------|------------------|------------------|----------------|----------------------------|--------------------|
| 1876..... | 44 | 14 | 6 | 2 | ..... | 355 | 14.27 |
| 1877..... | 52 | 10 | 4 | 2 | ..... | 346 | 13.90 |
| 1878..... | 60 | 6 | 9 | 10 | ..... | 375 | 14.57 |
| 1879..... | 49 | 8 | 10 | 8 | ..... | 405 | 15.11 |
| 1880..... | 55 | 6 | 46 | 11 | ..... | 490 | 18.02 |
| 1881..... | 60 | 17 | 56 | 2 | ..... | 549 | 18.97 |
| 1882..... | 52 | 21 | 53 | ..... | 13 | 499 | 16.63 |
| 1883..... | 41 | 8 | 13 | 10 | ..... | 440 | 14.10 |
| 1884..... | 58 | 10 | 36 | 12 | ..... | 496 | 15.33 |
| 1885..... | 65 | 15 | 10 | 3 | ..... | 459 | 13.70 |
| 1886..... | 53 | 12 | 6 | 48 | ..... | 569 | 16.42 |
| 1887..... | 59 | 10 | 11 | 24 | ..... | 616 | 17.18 |
| 1888..... | 58 | 9 | 12 | 3 | ..... | 584 | 15.63 |
| 1889..... | 57 | 16 | 14 | 3 | ..... | 599 | 15.41 |
| 1890..... | 91 | 26 | 13 | 10 | ..... | 732 | 18.01 |
| 1891..... | 66 | 24 | 25 | 14 | ..... | 769 | 18.31 |
| 1892..... | 83 | 24 | 224 | 2 | ..... | 903 | 20.00 |
| 1893..... | 51 | 15 | 95 | 7 | ..... | 815 | 17.10 |
| 1894..... | 50 | 15 | 58 | 60 | ..... | 834 | 16.70 |
| 1895..... | 59 | 20 | 23 | 12 | ..... | 821 | 15.88 |
| 1896..... | 64 | 19 | 10 | 2 | ..... | 609 | 10.87 |
| 1897..... | 68 | 12 | 4 | 2 | ..... | 624 | 10.94 |
| 1898..... | 57 | 7 | 14 | 3 | ..... | 611 | 10.53 |

DISBURSEMENTS.

| DEPARTMENT | ACCOUNT. | FOR THE YEAR 1898 | | | From Beginning of Works to December 31, 1898. |
|---------------|---|--------------------|-----------|-----------|---|
| | | Labor. | Material. | Total. | |
| Construction. | Adtg., Books, Stationery and Printing | <i>a</i> \$ 143 26 | \$ 31 14 | \$ 174 40 | \$ 644 75 |
| | Boilers..... | <i>a</i> | | | 3,364 13 |
| | Boiler No. 7..... | <i>g</i> 127 51 | 1,171 31 | 1,298 82 | 2,324 84 |
| | " " 8..... | <i>g</i> 127 52 | 1,171 42 | 1,298 94 | 2,324 97 |
| | " " 9..... | <i>g</i> 127 51 | 1,171 33 | 1,298 84 | 2,324 88 |
| | " " 10..... | <i>g</i> 127 51 | 1,171 45 | 1,298 96 | 2,325 00 |
| | " " 11..... | <i>g</i> 131 54 | 1,171 38 | 1,302 92 | 2,302 43 |
| | " " 12..... | <i>g</i> 131 54 | 1,171 47 | 1,303 01 | 2,302 54 |
| | " " 13..... | <i>g</i> 131 98 | 1,171 39 | 1,303 37 | 2,302 86 |
| | " " 14..... | <i>g</i> 142 90 | 1,171 41 | 1,314 31 | 2,313 82 |
| | Boiler House No. 2..... | <i>g</i> 75 14 | 2,263 68 | 2,338 82 | 15,826 24 |
| | Buildings and Grounds..... | <i>g</i> | | | 90,181 80 |
| | Civil Engineering..... | 1,529 15 | 902 09 | 2,431 24 | 8,554 80 |
| | Connections..... | 1,719 00 | 1,081 22 | 2,800 22 | 119,169 35 |
| | Drinking Fountains..... | <i>d</i> | | | 1,577 08 |
| | Electric Light Plant..... | <i>a</i> | | | 756 67 |
| | Engines and Boilers to January 1, 1891..... | <i>a</i> | | | 93,336 61 |
| | Engines..... | <i>a</i> | | | 15 05 |
| | Engine No. 4..... | <i>b</i> | | | 48,353 18 |
| | " " 5..... | <i>b</i> 1,242 23 | 394 92 | 1,637 15 | 21,401 94 |
| | Engine House No. 3..... | <i>b</i> | | | 1,525 55 |
| | Engine Room Furniture and Fixtures..... | 3 79 | 122 90 | 126 69 | 396 63 |
| | Expense..... | <i>a</i> 12 42 | 12 80 | 25 22 | 27 610 13 |
| | Fire Hydrants..... | 96 49 | 932 45 | 1,028 94 | 238 26 |
| | Fuel..... | <i>a</i> 1 06 | 34 27 | 35 33 | |

| | | | | | | | |
|---------------|---|----------|----------|----------|-----------|--|------------|
| Construction. | Gas Well | | | | | | 8,148 59 |
| | High Service System..... | <i>h</i> | 8,470 46 | 6,744 43 | 15,214 89 | | 15,214 89 |
| | Horse, Wagon and Cartage..... | | 61 35 | 199 86 | 261 21 | | 4,943 73 |
| | Intake Pipe No. 1 | | | | | | 49,474 39 |
| | " " 2 | <i>h</i> | | | | | 140,966 25 |
| | Interest and Discount | | | | | | 99,420 95 |
| | Light, Oil, Lamps, Wicks, etc..... | <i>a</i> | 96 | 30 98 | 31 94 | | 240 64 |
| | Lowering Mains..... | | 164 32 | | 164 32 | | 1,753 17 |
| | Mains and Branches..... | | 7,573 30 | 8,550 64 | 16,123 94 | | 555,393 81 |
| | Main, 30-inch | | | | | | 75,955 61 |
| | Meters | | 140 96 | 959 51 | 1,100 47 | | 19,919 51 |
| | New Electric Light Plant..... | <i>h</i> | 595 31 | 3,595 60 | 4,160 91 | | 4,160 91 |
| | Office Furniture and Fixtures..... | <i>a</i> | 16 18 | 524 05 | 540 23 | | 1,614 26 |
| | Oil and Tallow..... | <i>b</i> | 19 | 6 04 | 6 23 | | 22 19 |
| | Paving and Street Repairs..... | <i>b</i> | | | | | 4 07 |
| | Park Fountains..... | | | | | | 3,244 68 |
| | Railroad Switch and Scales..... | | | | | | 2,918 92 |
| | Reservoir..... | | | | | | 123,150 83 |
| | Shop Rent..... | <i>a</i> | 3 73 | 120 97 | 124 70 | | 913 46 |
| | Steel Plate Chimney No. 1..... | <i>g</i> | 28 85 | 934 59 | 963 44 | | 4,177 53 |
| | Stop Valves..... | | 297 48 | 1,484 81 | 1,782 29 | | 36,305 84 |
| | Superintendent's Expense..... | <i>a</i> | | | | | 52 82 |
| | " Stores..... | | | | | | 217 05 |
| | Telephone and Telegraph | <i>a</i> | | | | | 18 34 |
| | Tools and Repairs..... | | 378 64 | 130 18 | 508 82 | | 5,477 93 |
| | Waste and Packing..... | <i>g</i> | | | | | 5 20 |
| Maintenance. | Water Lots..... | <i>e</i> | 50 | 16 13 | 16 63 | | 15,851 29 |
| | Adfg., Books, Stationery and Printing | <i>a</i> | 143 10 | 25 96 | 169 06 | | 493 72 |
| | Boilers to January 1, 1893 | | | | | | 18,365 28 |
| | Boiler No. 1..... | <i>c</i> | 64 36 | 1 11 | 65 47 | | 1,099 21 |
| | " 2..... | <i>c</i> | 64 35 | 1 13 | 65 48 | | 1,039 43 |
| | " 3..... | <i>c</i> | 64 35 | 1 11 | 65 46 | | 1,433 16 |
| | " 4..... | <i>c</i> | 64 33 | 1 13 | 65 46 | | 1,146 55 |
| | <i>a</i> Accounts opened in 1891. <i>c</i> Accounts opened in 1893. <i>e</i> Accounts opened in 1895. | | | | | | |
| | <i>b</i> Accounts opened in 1892 <i>d</i> Accounts opened in 1894. <i>g</i> Accounts opened in 1897. | | | | | | |

DISBURSEMENTS—Continued.

| DEPARTMENT. | ACCOUNT. | FOR THE YEAR 1898. | | | From Beginning of Works to December 31, 1898. |
|--------------|---------------------------------|--------------------|-----------|----------|---|
| | | Labor. | Material. | Total. | |
| | | | | | |
| Maintenance. | Boiler No. 5..... | c \$ 71 19 | \$ 12 68 | \$ 83 87 | \$ 791 27 |
| | " " 6..... | c 71 18 | 12 70 | 83 88 | 626 18 |
| | " " 7..... | h 49 11 | 47 97 | 97 08 | 97 08 |
| | " " 8..... | h 58 63 | 50 35 | 108 98 | 108 98 |
| | " " 9..... | h 48 43 | 47 80 | 96 23 | 96 23 |
| | " " 10..... | h 38 17 | 48 08 | 86 25 | 86 25 |
| | " " 11..... | h 35 35 | 48 14 | 83 49 | 83 49 |
| | " " 12..... | h 47 71 | 48 36 | 96 07 | 96 07 |
| | " " 13..... | h 23 88 | 48 39 | 72 27 | 72 27 |
| | " " 14..... | h 28 65 | 49 12 | 77 77 | 77 77 |
| | Boiler House No. 1..... | c 852 51 | 1,654 39 | 2,506 90 | 3,045 07 |
| | " " 2..... | h 54 85 | 131 31 | 186 16 | 186 16 |
| | Buildings and Grounds..... | a 872 60 | 363 71 | 1,236 31 | 8,988 09 |
| | Connections..... | h 781 84 | 117 24 | 899 08 | 12 191 36 |
| | Drinking Fountains..... | d 5 97 | 41 13 | 47 10 | 192 31 |
| | Electric Light Plant..... | b 8 59 | 278 20 | 286 79 | 602 64 |
| | Engines to January 1, 1893..... | c..... | ..... | ..... | 13,402 04 |
| | Engine No. 1..... | c..... | ..... | ..... | 115 53 |
| | " " 2..... | c 6 45 | 31 98 | 38 43 | 441 03 |
| | " " 3..... | c 79 83 | 160 35 | 240 18 | 890 97 |
| | " " 4..... | d 152 73 | 721 77 | 874 50 | 2,820 44 |
| | Engine House No. 1..... | c 124 10 | 260 68 | 348 78 | 1,406 45 |
| | " " 2..... | c 1,297 64 | 1,594 53 | 2,892 17 | 4,214 42 |
| | " " 3..... | c 100 01 | 380 34 | 480 35 | 1,358 89 |

WATER WORMS, IN THE CITY OF ERIE.

Maintenance.

| Engine Room Furniture and Fixtures. | a | 3 | 12 | 101 | 20 | 104 | 32 | 295 | 28 |
|--|---|-------|-------|-------|-------|-------|-------|--------|----|
| Engineer's Stores..... | b | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 05 |
| Expense..... | a | 12 | 06 | 76 | ..... | 12 | 82 | 361 | 88 |
| Flre Hydrants..... | a | 285 | 82 | 33 | 53 | 319 | 35 | 2,773 | 41 |
| Fuel..... | a | ..... | 90 | 32 | 01 | 33 | 00 | 193 | 02 |
| Horse, Wagon and Cartage..... | a | 63 | 08 | 258 | 56 | 321 | 64 | 5,017 | 40 |
| Intake Pipe No. 1..... | a | ..... | ..... | ..... | ..... | ..... | ..... | 146 | 11 |
| Light, Oil, Lamps, Wicks, etc. | a | 43 | ..... | 13 | 99 | 14 | 42 | 142 | 49 |
| Mains and Branches..... | a | 299 | 61 | 276 | 33 | 575 | 94 | 20,936 | 46 |
| Main, 30-Inch..... | a | 9 | 89 | ..... | ..... | 9 | 89 | 909 | 22 |
| Meters..... | a | 99 | 31 | 151 | 45 | 250 | 76 | 5,639 | 19 |
| New Electric Light Plant..... | b | 35 | 11 | 77 | 72 | 112 | 83 | 112 | 83 |
| Office Furniture and Fixtures..... | a | 27 | 74 | 126 | 36 | 154 | 10 | 534 | 54 |
| Oil and Tallow..... | b | ..... | ..... | ..... | ..... | ..... | ..... | 20 | 92 |
| Paving and Street Repairs..... | a | ..... | ..... | ..... | ..... | ..... | ..... | 449 | 94 |
| Railroad Switch and Scales..... | a | 177 | 98 | 115 | 04 | 293 | 02 | 992 | 61 |
| Reservoir..... | a | 146 | 84 | 23 | 78 | 170 | 62 | 35,193 | 26 |
| Shop Rent..... | a | 3 | 73 | 120 | 97 | 124 | 70 | 913 | 22 |
| Stand Pipe..... | c | 24 | 67 | 311 | 33 | 336 | 00 | 4,161 | 10 |
| Steel Plate Chimney No. 1..... | a | 04 | ..... | 1 | 31 | 1 | 35 | 1 | 35 |
| Stop Valves..... | b | 163 | 02 | 52 | 72 | 215 | 74 | 5,595 | 04 |
| Superintendent's Expense..... | a | ..... | ..... | ..... | ..... | ..... | ..... | 52 | 56 |
| Stores..... | a | ..... | ..... | ..... | ..... | ..... | ..... | 396 | 52 |
| Tools and Repairs..... | b | 416 | 56 | 943 | 29 | 1,359 | 85 | 7,009 | 56 |
| Waste and Packing..... | b | ..... | ..... | ..... | ..... | 41 | 33 | 41 | 33 |
| Adtg., Books, Stationery and Printing..... | a | 148 | 35 | 173 | 31 | 321 | 66 | 1,497 | 30 |
| Buildings and Grounds..... | b | 1,711 | 25 | ..... | ..... | 1,711 | 25 | 8,378 | 14 |
| Drinking Fountains..... | a | 123 | 70 | ..... | ..... | 123 | 70 | 175 | 07 |
| Electric Light..... | b | 1 | 58 | 51 | 04 | 52 | 62 | 52 | 62 |
| Electric Light Plant..... | b | ..... | 01 | 15 | ..... | ..... | ..... | 34 | 84 |

Operating.

a Accounts opened in 1891.
b Accounts opened in 1892.
c Accounts opened in 1893.
d Accounts opened in 1894.
e Accounts opened in 1897.
f Accounts opened in 1898.

a Accounts opened in 1891.

b Accounts opened in 1892.

c Accounts opened in 1893.

d Accounts opened in 1894.

£ Accounts opened in 1897.

h Accounts opened in 1898.

REPORT OF THE COMMISSIONERS OF

DISBURSEMENTS—Continued.

| DEPARTMENT. | ACCOUNT. | FOR THE YEAR 1898. | | | From Beginning of Work to December 31, 1898. |
|-------------|--|--------------------|-----------|------------|--|
| | | Labor. | Material. | Total. | |
| Operating. | Engineers and Firemen..... | \$6,807 92 | | \$6,807 92 | \$137,386 19 |
| | Engineer's Stores..... | | | | 2,348 57 |
| | Expense..... | a 88 | \$ 28 48 | 29 36 | 1,089 61 |
| | Fire Hydrants..... | b 416 40 | | 416 40 | 1,015 65 |
| | Flushing Sewers..... | c 21 06 | | 21 06 | 30 67 |
| | Fuel..... | d 152 82 | 4,949 55 | 5,102 37 | 168,444 97 |
| | Horse, Wagon and Cartage. | | | | 54 81 |
| | Inspectors..... | e 2,483 68 | | 2,483 68 | 14,357 02 |
| | Insurance..... | | | | 1,554 01 |
| | Light, Oil, Lamps, Wicks, etc..... | f 78 | 25 20 | 25 98 | 442 88 |
| | Meters..... | g 340 66 | 27 67 | 28 52 | 3,549 21 |
| | Oil and Tallow..... | | | 340 66 | 14,947 37 |
| | Rent of Office..... | h 26 35 | 853 49 | 879 84 | 603 09 |
| | Reservoir..... | i 494 82 | | 494 82 | 3,293 07 |
| | Stop Valves..... | j 40 91 | | 40 91 | 399 63 |
| | Taxes—U. S., State, County and School..... | k 8 87 | 287 30 | 296 17 | 2,414 58 |
| | Telephone and Telegraph..... | l 7 56 | 244 97 | 252 53 | 1,476 18 |
| | Tools and Repairs..... | m 6 28 | 203 55 | 209 83 | 856 31 |
| | Turning on and off Water..... | n 374 32 | | 374 32 | 639 42 |
| | Waste and Packing..... | o 31 03 | 1,005 02 | 1,036 05 | 7,295 50 |
| | Water Rent Returned..... | p 47 | 15 06 | 15 53 | 1,093 18 |

| Accounting. | Advtg., Books, Stationery and Printing..... | 17 30 | 560 47 | 577 77 | 10,356 89 |
|-------------|--|-------------|-------------|--------------|----------------|
| | Expense..... | 3 14 | 5 63 | 8 77 | 14,817 40 |
| | Horse, Wagon and Cartage..... | | | | 17 30 |
| | Postage..... | | | | 6,681 79 |
| | Salaries..... | 13 06 | 422 99 | 436 05 | 190,888 30 |
| Sundries, | City of Erie, Board of Com. of the Sinking Fund..... | 7.442 92 | 25,000 00 | 7,442 92 | 145,500 00 |
| | City of Erie, Penna..... | | 6 92 | 6 92 | 19 23 |
| Legal. | Court Costs..... | | | | 478 40 |
| | Counsel Fees..... | 600 00 | | 600 00 | 4,093 53 |
| | Expense..... | | | | 189 02 |
| | Totals..... | \$51,829 66 | \$81,125 23 | \$132,954 89 | \$2,536,608 48 |

a Accounts opened in 1891. *c* Accounts opened in 1893. *e* Accounts opened in 1895.

b Accounts opened in 1892. *d* Accounts opened in 1894. *g* Accounts opened in 1897.

RECAPITULATION.

| DEPARTMENT. | FOR THE YEAR 1898. | | | | From Beginning of Works to Dec. 31, 1898. |
|-------------------|--------------------|-------------|-------------|--------------|---|
| | Pro-Rata. | Labor. | Material. | Total. | |
| Construction..... | .4664529† | \$23,572 78 | \$38,444 42 | \$62,017 20 | \$1,622,677 50 |
| Maintenance..... | .1188366† | 6,979 91 | 8 820 01 | 15,799 92 | 167,459 23 |
| Operating..... | .184397† | 13,200 55 | 7,864 79 | 21,065 34 | 373,429 89 |
| Accounting..... | .0636720† | 7 476 42 | 989 09 | 8,465 51 | 222,761 68 |
| Sundries..... | .1880857† | ..... | 25,006 92 | 25,006 92 | 145,519 23 |
| Legal..... | .0045128† | 600 00 | ..... | 600 00 | 4,760 95 |
| Totals..... | .9999997† | \$51,829 66 | \$81,125 23 | \$132,954 89 | \$2,536,608 48 |

Amount of Coal Consumed in Pumping, Gallons of Water Pumped, Average Height Pumped, Cost per Million Gallons, Etc., from First Year Works were Operated to Dec. 31, 1898.

| Year. | Tons Coal Consumed. | Cost Coal from Jan. 1st to Dec. 31st. | Grades of Bituminous Coal. | Gallons of Water Pumped. | Increase or Decrease | Number of places supplied. | No. of Fire Hyd. tanks. | Average height of Water in Reservoir above surface of Bay. | Cost Coal per million gallons raised to Reservoir. | Gallons raised to Reservoir by one pound of Coal. |
|-----------|---------------------|---------------------------------------|----------------------------|--------------------------|----------------------|----------------------------|-------------------------|--|--|---|
| 1868..... | 591 1 | \$ 309 61 | Lump | 246,648,960 | ..... | 1,218 | 97 | 232 0 | \$18 76 | ..... |
| 1869..... | 544 4 | 4,818 48 | " | 279,368,495 | 327,19,535 f | 1,727 | 99 | 232 0 | 16 52 | 98 5 |
| 1870..... | 1,664 5 | 5,159 10 | " | 279,368,495 | 115,707,595 f | 2,140 | 103 | 232 0 | 21 90 | 150 9 |
| 1871..... | 1,422 7 | 7,117 00 | " | 395,076,000 | 11,013,585 d | 2,475 | 107 | 232 0 | 17 38 | 114 8 |
| 1872..... | 1,308 5 | 6,528 50 | " | 384,062,415 | 60,754,980 f | 2,663 | 107 | 232 0 | 16 30 | 126 4 |
| 1873..... | 1,672 5 | 8,412 65 | " | 444,817,395 | 86,188,080 f | 2,700 | 110 | 232 0 | 13 30 | 145 5 |
| 1874..... | 1,759 0 | 7,709 54 | " | 531,005,475 | 139,721,175 f | 2,763 | 112 | 232 0 | 12 75 | 159 3 |
| 1875..... | 1,836 4 | 8,657 61 | " | 670,726,650 | 214,10,595 f | 2,854 | 114 | 232 0 | 11 64 | 135 7 |
| 1876..... | 1,105 1 | 8,925 22 | " | 660,981,810 | 9,744,840 d | 3,011 | 121 | 232 0 | 9 19 | 136 4 |
| 1877..... | 2,456 6 | 8,509 33 | " | 682,392,315 | 125,408,085 f | 3,568 | 126 | 232 0 | 8 99 | 153 6 |
| 1878..... | 2,463 3 | 7,945 37 | " | 807,800,400 | 31,995,150 d | 3,011 | 121 | 232 0 | 6 68 | 126 0 |
| 1879..... | 2,628 1 | 7,428 92 | " | 775,805,250 | 219,835,684 f | 4,110 | 161 | 232 0 | 6 45 | 142 2 |
| 1880..... | 3,076 1 | 6,978 41 | Slack. | 829,759,260 | 145,881,674 d | 4,687 | 171 | 234 0 | 4 66 | 139 7 |
| 1881..... | 3,430 3 | 6,517 58 | " | 975,640,934 | 13,819,575 d | 5,077 | 197 | 234 7 | 4 99 | 170 0 |
| 1882..... | 2,968 2 | 5,355 93 | " | 815,939,685 | 101,841,665 f | 5,395 | 248 | 234 3 | 4 40 | 152 4 |
| 1883..... | 2,398 2 | 3,908 59 | " | 1,036,496,665 | 118,715,315 f | 5,658 | 270 | 232 9 | 3 86 | 159 7 |
| 1884..... | 3,010 8 | 4,502 61 | " | 1,117,389,075 | 80,892,410 f | 6,140 | 280 | 233 3 | 2 95 | 165 8 |
| 1885..... | 3,243 8 | 4,575 79 | " | 1,218,213,688 | 100,824,613 f | 6,368 | 318 | 234 1 | 1 89 | 216 0 |
| 1886..... | 3,369 0 | 4,318 64 | " | 1,341,708,002 | 123,494,314 f | 6,600 | 333 | 234 6 | 1 80 | 292 1 |
| 1887..... | 2,820 4 | 3,589 31 | " | 1,475,358,220 | 133,650,218 f | 7,086 | 346 | 235 2 | 1 81 | 301 5 |
| 1888..... | 2,392 3 | 2,545 46 | " | 1,659,625,551 | 184,267,331 f | 7,728 | 372 | 236 9 | 2 18 | 322 4 |
| 1889..... | 2,446 0 | 2,661 12 | " | 1,807,038,580 | 147,413,029 f | 8,255 | 393 | 237 3 | 2 35 | 291 42 |
| 1890..... | 2,583 6 | 3,052 89 | " | 2,047,993,505 | 249,954,925 f | 8,998 | 415 | 237 4 | 2 66 | 279 43 |
| 1891..... | 3,120 7 | 3,941 53 | " | 2,333,638,610 | 285,645,105 f | 9,687 | 444 | 236 5 | 2 43 | 248 6 |
| 1892..... | 3,693 5 | 4,207 11 | " | 1,816,596,518 | 517,042,092 d | 10,680 | 479 | 236 6 | 2 21 | 306 8 |
| 1893..... | 2,960 0 | 4,423 59 | " | 1,975,196,305 | 158,797,787 f | 10,846 | 489 | 237 2 | 1 796 | 278 62 |
| 1894..... | 3,541 5 | 4,377 16 | " | 2,005,757,728 | 30,361,423 f | 11,385 | 514 | 237 6 | 2 034 | 328 17 |
| 1895..... | 3,056 0 | 3,603 28 | " | 2,215,416,770 | 209,059,042 f | 11,739 | 523 | 235 9 | 1 68 | 331 75 |
| 1896..... | 3,338 2 | 4,507 52 | Miscel's. | 2,270,520,528 | 55,103,758 f | 11,739 | 543 | 235 6 | ..... | 363 98 |
| 1897..... | 3,338 2 | 4,507 52 | Slack. | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 1898..... | 3,119 0 | 3,815 68 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

See pumping statistics.

BUILDING PERMITS.

| | | | | | | | |
|--------------|------------|--------------|------------|----------|----------|------------|--------------|
| First..... | \$113 74 | ..... | ..... | \$113 74 | ..... | ..... | \$113 74 |
| Second..... | 73 53 | ..... | ..... | 73 53 | ..... | ..... | 73 53 |
| Third..... | 134 05 | ..... | ..... | 134 05 | ..... | ..... | 134 05 |
| Fourth..... | 144 08 | ..... | ..... | 144 08 | ..... | ..... | 144 08 |
| Fifth..... | 41 02 | ..... | ..... | 41 02 | ..... | ..... | 41 02 |
| Sixth..... | 61 42 | ..... | ..... | 61 42 | ..... | ..... | 61 42 |
| Seventh..... | 2 49 | ..... | ..... | 2 49 | ..... | ..... | 2 49 |
| Total..... | \$570 33 | ..... | ..... | \$570 33 | ..... | ..... | \$570 33 |
| Water..... | \$8,077 55 | \$132,681 39 | \$5,434 38 | \$447 83 | \$279 41 | \$7,093 23 | \$131,303 48 |
| | | | | | | | \$8,242 47 |

PLUMBING ACCOUNTS.

| | | | | | | | |
|--------------|------------|--------------|------------|-------------|----------|------------|--------------|
| First..... | \$ 9 33 | ..... | ..... | \$ 9 33 | ..... | ..... | \$ 9 33 |
| Second..... | \$83 54 | 407 91 | ..... | 491 45 | ..... | \$ 49 68 | 410 96 |
| Third..... | 24 40 | 313 97 | ..... | 338 37 | ..... | ..... | 323 03 |
| Fourth..... | 14 50 | 475 96 | ..... | 490 46 | ..... | 8 50 | 481 96 |
| Fifth..... | ..... | 20 09 | ..... | 20 09 | ..... | ..... | 20 09 |
| Sixth..... | 2 13 | ..... | ..... | 2 13 | ..... | ..... | 2 13 |
| Seventh..... | 75 | 3 52 | ..... | 4 27 | ..... | ..... | 4 27 |
| Total..... | \$125 32 | \$1,230 78 | ..... | \$ 1,356 10 | ..... | \$ 58 18 | \$ 1,251 77 |
| G'd Total | \$8,202 87 | \$133,912 17 | \$5,434 38 | \$447 83 | \$279 41 | \$7,151 41 | \$132,555 25 |
| | | | | | | | \$8,288 62 |

Meter accounts are rendered at the close of each quarter, which will explain the large balance to January 1, 1899.

1898.

STATEMENT OF ACCOUNT WITH THE CITY OF ERIE, PENNA.

1898.

CITY OF ERIE, PENNA.—DR.

CASH—Paid Board of Commissioners of the Sinking Fund of the City of Erie.....

25,000 00

INTEREST—On balances in Second National Bank, from October 1, 1897, to April 1, 1898,

130 62

Interest on same to December 31, 1898.....

126 80

From April 1, 1898, to October 1, 1898.....

3 82

Interest on same to December 31, 1898.....

136 47

On payments to Board of Commissioners of the Sinking Fund of the City of Erie,

1 38

July 1, 1898, to December 31, 1898.....on

137 85

September 3, 1898, to December 31, 1898.....on

268 47

December 17, 1898, to December 31, 1898.....on

100 82

WATER—City Hall

65 75

Engine Houses.....

24 66

Fire Hydrants.....

191 23

Flushing Sewers & washing Mud off State St.

206 18

Fountains—Drinking.....

202 25

" —Park.....

29,755 00

Parks—Central—East.....

445 00

" " —West.....

157 50

" —Lakeside—East.....

1,251 05

" " —West.....

1,408 55

Sprinkling State St. bet. Front and Dock....

100 00

" Streets by Superintendent of Sta.

17 90

Balance.....

72 00

BALANCE—December 31, 1897.....

89 90

INTEREST—On same to December 31, 1898.....

140 80

RENT—Of offices one year.....

4 98

Balance due the City of Erie, Penna., December 31, 1898.....

145 78

CREDITS.

BALANCE—December 31, 1897.....

57,902 36

INTEREST—On same to December 31, 1898.....

624,227 74

RENT—Of offices one year.....

682,130 10

Balance due the City of Erie, Penna., December 31, 1898.....

654,740 48

BALANCE—December 31, 1897.....

26,180 62

INTEREST—On same to December 31, 1898.....

1,200 00

RENT—Of offices one year.....

682,130 10

Balance due the City of Erie, Penna., December 31, 1898.....

624,227 74.

1898. STATEMENT OF RESOURCES AND LIABILITIES DECEMBER 31st. 1898.

RESOURCES:

PLANT NORTH OF FRONT STREET—

| | | |
|---|------------|------------|
| Buildings and Grounds including Piers to Intake No. 1. | 100,381 89 | |
| Boiler House No. 2, from January 1, 1896..... | 16,078 14 | |
| Engine House No. 3, from January 1, 1892..... | 21,591 35 | 147,051 38 |
| Boilers from January 1, 1891..... | 2,984 15 | |
| Boilers Nos. 7 to 14 inclusive, from January 1, 1896..... | 18,796 86 | |
| Engines and Boilers to January 1, 1891..... | 104,325 20 | |
| Engine No. 4, from January 1, 1892..... | 49,058 00 | |
| Engine No. 5, from January 1, 1898..... | 1,666 40 | 176,830 61 |
| Electric Light Plant..... | 766 90 | |
| New Electric Light Plant, from January 1, 1898..... | 4,241 71 | 5,008 61 |
| Engine Room Furniture and Fixtures..... | | 1,678 35 |
| Intake Pipes { No. 1..... | 55,568 44 | 199,394 79 |
| { No. 2, from January 1, 1892..... | 143,826 35 | 3,262 09 |
| Railroad Switch and Scales..... | | 4,245 44 |
| Steel Plate Chimney No. 1, from January 1, 1896..... | | 16,012 59 |
| Water Lots, from January 1, 1895..... | | 553,483 86 |

PLANT SOUTH OF FRONT STREET—

| | | |
|--|------------|--------------|
| Connections..... | 128,080 36 | |
| Drinking Fountains, from January 1, 1894..... | 1,597 41 | |
| Fire Hydrants..... | 29,239 30 | |
| High Service System, from January 1, 1898..... | 15,510 36 | |
| Mains and Branches..... | 686,923 36 | |
| Main, 30-inch..... | 20,890 68 | |
| Meters..... | 39,090 15 | |
| Stop Valves..... | | 921,331 62 |
| Office Furniture and Fixtures..... | | 1,640 86 |
| Reservoir..... | | 137,629 35 |
| | | 1,060,601 83 |
| | | 1,614,085 69 |

PERSONAL ACCOUNTS—Assessed.....

453 14

7,789 33

Meter.....

8,242 47

46 15

Plumbing.....

8,288 62

37 54

8,326 16

CASH in hands of Treasurer City of Erie.....

1,622,411 85

LIABILITIES:

ACCOUNTS—City of Erie, Penna.....

624,227 74

Credits on Assessed.....

276 59

2 82

Meters.....

279 41

624,507 15

997,904 70

1,622,411 85

Balance.....

ASSESSMENT FOR 1899.

WARDS.

| TERMS ASSESSED. | FIRST. | | SECOND. | | THIRD. | | FOURTH. | | FIFTH. | | SIXTH. | | SEVENTH. | | TOTALS. | |
|----------------------------|--------|----------|---------|-----------|--------|---------|---------|---------|--------|----------|--------|----------|----------|---------|---------|----------|
| | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. |
| Air Pumps..... | 6 | 18 00 | 23 | 69 00 | 21 | 65 00 | 9 | 27 00 | 6 | 18 00 | 6 | 18 00 | ..... | ..... | 71 | 215 00 |
| Bakeries..... | 1 | 5 00 | 5 | 26 24 | 3 | 19 36 | 2 | 10 00 | 3 | 15 00 | 6 | 34 36 | ..... | ..... | 20 | 109 96 |
| Banks..... | 3 | 20 00 | ..... | ..... | 1 | 10 00 | 2 | 10 00 | ..... | ..... | ..... | ..... | ..... | ..... | 6 | 40 00 |
| Barber Chair..... | 21 | 59 00 | 34 | 109 00 | 46 | 174 00 | 28 | 82 00 | 14 | 44 00 | 16 | 48 00 | ..... | ..... | 159 | 476 00 |
| Bath Tubs..... | 307 | 971 11 | 324 | 993 50 | 702 | 2098 33 | 582 | 1682 00 | 128 | 379 50 | 181 | 528 00 | 3 | 13 50 | 2227 | 6665 94 |
| Bicycle Schools..... | 1 | 5 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 5 00 |
| Billiard Tables..... | 8 | 8 00 | 3 | 3 00 | 22 | 24 00 | 6 | 6 00 | ..... | ..... | 3 | 3 00 | ..... | ..... | 42 | 44 00 |
| Blacksmith Fires..... | 4 | 17 50 | 9 | 37 50 | 12 | 47 50 | 6 | 25 00 | 4 | 20 00 | 1 | 5 00 | ..... | ..... | 36 | 152 50 |
| Boat Houses..... | 2 | 15 00 | ..... | ..... | ..... | ..... | 2 | 13 00 | ..... | ..... | ..... | ..... | ..... | ..... | 4 | 28 00 |
| Bonds..... | 6 | 33 48 | 6 | 41 07 | 6 | 18 97 | 3 | 2 18 | 10 | 31 90 | 12 | 31 78 | 4 | 65 98 | 47 | 225 36 |
| Bottling Works..... | 1 | 5 00 | 2 | 16 00 | ..... | ..... | 2 | 20 00 | ..... | ..... | ..... | ..... | ..... | ..... | 5 | 41 00 |
| Bowling Alley..... | 1 | 5 00 | 1 | 5 00 | 3 | 15 00 | ..... | ..... | 1 | 5 00 | 1 | 5 00 | ..... | ..... | 5 | 25 00 |
| Churches & Day Schools | 3 | 9 00 | 10 | 42 00 | 11 | 55 00 | 7 | 35 00 | 1 | 5 00 | 4 | 20 00 | ..... | ..... | 36 | 166 00 |
| City Parks..... | 2 | 67 90 | ..... | ..... | ..... | ..... | 3 | 192 00 | ..... | ..... | ..... | ..... | ..... | ..... | 5 | 259 90 |
| Club Rooms..... | 3 | 9 00 | 14 | 52 00 | 11 | 37 00 | 10 | 38 00 | 2 | 8 00 | 4 | 14 00 | ..... | ..... | 44 | 158 00 |
| Cows..... | 12 | 9 00 | 11 | 8 25 | 14 | 10 50 | 6 | 4 50 | 27 | 19 75 | 10 | 7 50 | 3 | 3 38 | 83 | 62 88 |
| Eating Houses..... | 2 | 13 00 | 7 | 35 00 | 19 | 89 67 | 6 | 30 00 | 1 | 5 00 | 1 | 3 00 | ..... | ..... | 36 | 175 67 |
| Engine Houses..... | 1 | 5 00 | 1 | 5 00 | 1 | 10 00 | 1 | 5 00 | 1 | 5 00 | 2 | 10 00 | ..... | ..... | 7 | 40 00 |
| Elevators..... | 1 | 120 00 | 3 | 15 00 | 1 | 60 00 | 1 | 6 00 | ..... | ..... | ..... | ..... | ..... | ..... | 6 | 196 00 |
| Engine Horse Power..... | 105 | 148 63 | 131 | 197 69 | 100 | 143 50 | 72 | 59 37 | 47 | 56 70 | 43 | 76 00 | 30 | 49 50 | 528 | 731 39 |
| Families..... | 1374 | 6863 514 | 2427 | 12,181 67 | 1872 | 9360 00 | 1548 | 7740 00 | 1139 | 5691 663 | 1332 | 6646 663 | 47 | 352 50 | 9739 | 48786 02 |
| Fish Ponds..... | ..... | ..... | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | ..... | ..... | ..... | ..... | ..... | ..... | 3 | 15 00 |
| Flah Markets..... | ..... | ..... | ..... | ..... | 2 | 8 00 | 13 | 700 53 | ..... | ..... | ..... | ..... | ..... | ..... | 16 | 1334 95 |
| Fountains..... | 1 | 625 52 | 2 | 30 00 | 1 | 15 00 | 1 | 15 00 | 2 | 30 00 | 1 | 15 00 | 1 | 22 50 | 10 | 157 50 |
| Fountain, Drinking..... | 2 | 30 00 | 2 | 6 00 | 1 | 3 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 | 9 00 |
| Fountain Cuspidors..... | ..... | ..... | 1 | 15 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 15 00 |
| Freight Houses..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 24 00 |
| Green Washers..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 26 | 39 37 |
| Hand Badins..... | 303 | 300 561 | 436 | 402 34 | 924 | 804 17 | 746 | 621 00 | 78 | 72 831 | 186 | 166 331 | 4 | 5 25 | 2737 | 2372 49 |
| Heating Boilers, H. P..... | 200 | 76 814 | 337 | 171 75 | 602 | 142 17 | 562 | 140 50 | 112 | 25 50 | 141 | 35 25 | ..... | ..... | 2044 | 591 981 |
| Horses..... | 159 | 224 00 | 300 | 400 00 | 411 | 571 00 | 319 | 397 00 | 210 | 302 00 | 240 | 333 00 | 8 | 19 50 | 1647 | 2246 50 |
| Laundries..... | 1 | 5 00 | 3 | 15 00 | 2 | 10 00 | 2 | 10 00 | ..... | ..... | 1 | 5 00 | ..... | ..... | 9 | 45 00 |

| | | | | | | | | | | | | | | | | | |
|--------------------------------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|--------|-------|-----------|-------|
| Libraries..... | 132 | 132 00 | 304 | 208 50 | 1 | 3 66 | 209 | 209 00 | 26 | 22 66½ | 70 | 36 83½ | 7 | 10 50 | 1133 | 1 | 3 66 |
| Lodging Rooms..... | 5 | 30 00 | 15 | 86 00 | 385 | 385 00 | 11 | 51 00 | 8 | 48 00 | 8 | 42 00 | ..... | ..... | 62 | 1094 50 | ..... |
| Meat Markets..... | 1 | 5 00 | 1 | 5 00 | ..... | ..... | 3 | 11 00 | ..... | ..... | ..... | ..... | ..... | ..... | 21 | 347 00 | ..... |
| Milk Depots..... | 70 | 186 87 | 77 | 344 00 | 86 | 291 00 | 85 | 376 00 | 2 | 6 00 | 3 | 9 00 | ..... | ..... | 5 | 21 00 | ..... |
| Offices..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 10 00 | ..... | ..... | ..... | ..... | ..... | ..... | 323 | 1206 87 | ..... |
| Opera Houses..... | ..... | ..... | ..... | ..... | 1 | 10 00 | 1 | 10 00 | 1 | 5 00 | 1 | 5 00 | ..... | ..... | 2 | 20 00 | ..... |
| Photograph Rooms..... | ..... | ..... | ..... | ..... | 5 | 25 00 | 1 | 5 00 | ..... | ..... | ..... | ..... | ..... | ..... | 12 | 60 00 | ..... |
| Printing Offices..... | ..... | ..... | ..... | ..... | 6 | 45 00 | 2 | 10 00 | ..... | ..... | ..... | ..... | ..... | ..... | 10 | 105 00 | ..... |
| Public Halls..... | 8 | 40 00 | 7 | 40 00 | 10 | 51 67 | 8 | 40 00 | 1 | 5 00 | 6 | 30 00 | ..... | ..... | 40 | 206 67 | ..... |
| Saloons..... | 11 | 55 00 | 42 | 210 00 | 28 | 140 00 | 18 | 90 00 | 12 | 60 00 | 8 | 40 00 | 1 | 7 50 | 120 | 602 50 | ..... |
| School Scholars..... | 873 | 76 36½ | 1406 | 140 60 | 2028 | 202 80 | 820 | 82 00 | 1203 | 120 30 | 938 | 91 80 | ..... | ..... | 7268 | 713 86½ | ..... |
| Slaughter Houses..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 | 15 00 | ..... | ..... | ..... | ..... | 4 | 23 00 | ..... |
| Steamer, U. S..... | ..... | ..... | ..... | ..... | 1 | 8 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 30 00 | ..... |
| Stores..... | 57 | 242 00 | 144 | 538 00 | 184 | 804 00 | 86 | 331 00 | 44 | 147 00 | 41 | 145 00 | ..... | ..... | 556 | 2207 00 | ..... |
| Adjoining Lot..... | 27 | 80 47 | 11 | 33 95 | 26 | 80 30 | 35 | 107 00 | 10 | 30 95 | 8 | 25 80 | 1 | 3 75 | 118 | 362 22 | ..... |
| Curb..... | 71 | 288 38 | 52 | 181 50 | 105 | 353 57 | 168 | 627 85 | 19 | 59 40 | 29 | 110 15 | 5 | 17 51 | 449 | 1638 36 | ..... |
| Hydrant..... | 38 | 113 15½ | 38 | 134 85 | 52 | 199 49 | 77 | 293 79 | 25 | 90 72½ | 52 | 175 95 | 2 | 8 29 | 284 | 1016 25 | ..... |
| In House..... | 45 | 145 65 | 102 | 333 20 | 61 | 196 50 | 44 | 149 15 | 56 | 182 89½ | 60 | 192 55 | 3 | 19 43 | 371 | 1219 37½ | ..... |
| Lawn..... | 48 | 148 40 | 61 | 195 54½ | 105 | 396 58 | 106 | 341 40 | 52 | 162 92½ | 106 | 215 81 | 21 | 58 00 | 499 | 1518 65½ | ..... |
| Sill Cock..... | 354 | 1004 06 | 425 | 1251 65½ | 669 | 1818 76 | 516 | 1445 29 | 204 | 990 53½ | 401 | 1139 59 | 9 | 31 98 | 2578 | 7681 87½ | ..... |
| Total Sprinklers..... | 583 | 1780 11½ | 689 | 2130 70 | 1018 | 3045 20 | 946 | 2964 48 | 366 | 1517 42½ | 656 | 1859 85 | 41 | 138 96 | 4299 | 13436 73½ | ..... |
| Urinals..... | 38 | 130 57½ | 70 | 230 00 | 89 | 309 50 | 67 | 209 00 | 11 | 45 66½ | 26 | 76 66½ | ..... | ..... | 301 | 1001 41 | ..... |
| Ware Houses..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 5 00 | ..... |
| Work Shops..... | 20 | 81 00 | 50 | 178 00 | 48 | 158 00 | 25 | 81 00 | 4 | 14 00 | 6 | 22 00 | 1 | 7 50 | 154 | 541 50 | ..... |
| Wash Tubs..... | 92 | 137 66½ | 46 | 69 00 | 243 | 348 00 | 276 | 382 00 | 15 | 19 00 | 49 | 61 00 | ..... | ..... | 721 | 1016 66½ | ..... |
| Wash Tubs, Revolving..... | 2 | 10 00 | 1 | 5 00 | ..... | ..... | 4 | 20 00 | ..... | ..... | ..... | ..... | ..... | ..... | 8 | 40 00 | ..... |
| Total Wash Tubs..... | 94 | 147 66½ | 47 | 74 00 | 243 | 348 00 | 280 | 402 00 | 15 | 19 00 | 50 | 66 00 | ..... | ..... | 729 | 1056 66½ | ..... |
| Water Closets, Closing..... | 700 | 2031 51 | 1045 | 3220 50 | 1695 | 4962 67 | 1233 | 3414 50 | 264 | 805 00 | 408 | 1207 00 | 6 | 24 75 | 5351 | 15665 93 | ..... |
| Water Closets, non-clos'g..... | 59 | 114 00 | 33 | 96 00 | 81 | 113 00 | 11 | 72 00 | 19 | 24 00 | 23 | 29 00 | ..... | ..... | 226 | 448 00 | ..... |
| Total Water Closets..... | 759 | 2145 51 | 1078 | 3316 50 | 1776 | 5075 67 | 1244 | 3486 50 | 283 | 829 00 | 431 | 1236 00 | 6 | 24 75 | 5577 | 16113 93 | ..... |
| Water Motors..... | ..... | ..... | 1 | 5 00 | 3 | 18 00 | 4 | 40 00 | ..... | ..... | 2 | 10 00 | ..... | ..... | 10 | 73 00 | ..... |
| Water Troughs..... | ..... | ..... | 6 | 60 00 | 3 | 30 00 | 2 | 20 00 | 8 | 80 00 | 2 | 20 00 | ..... | ..... | 21 | 210 00 | ..... |
| Yacht..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 3 00 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 3 00 | ..... |
| Grand totals for 1899..... | 5331 | 14730 14 | 8037 | 22546 31 | 10719 | 24798 67 | 7760 | 20391 41 | 3789 | 9687 08 | 4441 | 11695 94 | 159 | 726 27 | 40236 | 104575 82 | ..... |
| Grand totals for 1898..... | 5382 | 14303 85 | 8153 | 22244 05 | 10650 | 24398 96 | 7704 | 19861 27 | 3750 | 9197 25 | 3972 | 11055 21 | 157 | 701 50 | 39668 | 101762 15 | ..... |
| Total Gain for 1899..... | ..... | 426 29 | ..... | 302 26 | 169 | 399 71 | 56 | 530 14 | 39 | 489 83 | 469 | 640 73 | 2 | 24 71 | 735 | 2813 67 | ..... |
| Total Loss for 1899..... | 51 | ..... | 116 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 167 | ..... | ..... |
| Net Gain for 1899..... | ..... | 426 29 | ..... | 302 26 | 169 | 399 71 | 56 | 530 14 | 39 | 489 83 | 469 | 640 73 | 2 | 24 71 | 568 | 2813 67 | ..... |

RATES FOR CITY WATER.

Approved by Select Council August 19, 1895. Approved by Common
Council September 16, 1895. Approved by the
Mayor September 21, 1895.

ARE ALL ANNUAL EXCEPT AS OTHERWISE INDICATED, AND PAYABLE
QUARTERLY IN ADVANCE.

| | |
|--|---------------|
| Air Pump | \$ 3 00 |
| Bath Tub—Private (one family) first tub | 3 00 |
| Bath Tub—Private (one family) each additional tub..... | 1 50 |
| Bath Tub—Public, each tub..... | 5 00 |
| Bakery, per barrel of flour used (but no charge less than \$5).. | 01 |
| Barber Shop, first chair, including hand basin..... | 4 00 |
| Barber Shop, each additional chair, including hand basin..... | 2 00 |
| Billiard Tables, each | 1 00 |
| Blacksmith Fire, first fire..... | 5 00 |
| Blacksmith Fire, each additional fire..... | 2 50 |
| Boarding House, (in addition to family rates) per room..... | 1 00 |
| Building Purposes, per bushel of lime; to be paid before work is begun..... | 02 |
| Butcher Stalls..... | 3 00 to 15 00 |
| Charitable Institutions, one-third annual rates. | |
| Cow..... | 75 |
| Condensing Boiler for Steam Heating, (per season of 6 months) per horse power..... | 25 |
| Eating Houses..... | 5 00 to 25 00 |
| Family..... | 5 00 |
| Fire Protection Fixtures, testing same, thirty (30) minutes or less..... | 3 00 |
| Fire Protection Fixtures, testing same, one (1) hour or less, but more than thirty (30) minutes..... | 5 00 |
| Flushing Sewers, settling earth in ditches or purposes of like nature, per hour, or fractional part of an hour, each..... | 5 00 |
| Hand Basins in dwellings, hotels and schools, first basin..... | 1 00 |
| Hand Basins in dwellings, hotels and schools, each additional basin | 50 |
| Hand Basins in offices, stores and blocks, each | 1 00 |
| Hotels, (in addition to family rates) per room | 1 00 |
| Laundry, shop | 5 00 |
| Laundry, wash tub, stationary, each..... | 2 00 |
| Laundry, revolving washer, each..... | 5 00 |
| Livery Stable per horse..... | 2 00 |
| Offices..... | 3 00 to 10 00 |
| Private Stable, one or two horses..... | 2 00 |
| Private Stable, each additional horse over two..... | 1 00 |
| Printing Offices..... | 5 00 to 30 00 |
| Public Halls..... | 5 00 to 25 00 |
| Saloons..... | 5 00 to 25 00 |
| School, per pupil (in addition to fixtures)..... | 10 |
| Slaughter Houses..... | 5 00 to 50 00 |
| Sleeping Rooms, each..... | 1 00 |

Sprinkling Streets or Lawns with Hose, PER SEASON :

| | | |
|--|----------|-------|
| Corner lot, 41 feet front or less | \$ | 5 00 |
| Inside lot, 41 feet front or less..... | | 3 00 |
| For each additional foot front to either corner, or inside lot..... | | 05 |
| Steam Engines, ten hours per day, each Horse Power..... | | 2 50 |
| Stores..... | 3 00 to | 15 00 |
| Urinal, private, self-closing. (one family)..... | | 2 00 |
| Urinal, private, not self-closing (one family)..... | | 6 00 |
| Urinal, public, self-closing..... | | 3 00 |
| Urinal, public, not self closing..... | | 10 00 |
| Urinal, private or public, continuous flow..... | 10 00 to | 30 00 |
| Wash Tub, stationary, first tub (one family) | | 2 00 |
| Wash Tub, stationary, each additional tub, (one family)..... | | 1 00 |
| Water Closet, pan or tank (one family) private | | 3 00 |
| Water Closet, pan or tank (one family) each additional water closet..... | | 1 50 |
| Water Closet, pan or tank, public, each | | 5 00 |
| Water Closet, hopper, (one family) private, for each water closet | | 6 00 |
| Water Closet, hopper, public, for each water closet..... | | 10 00 |
| Work Shop, ordinary use..... | 3 00 to | 5 00 |

All other uses, when not metered, to be assessed by the Commissioners.

The sprinkling season is from May 1st to November 1st in each year.

There is no fractional part of a sprinkling season.

It will cost as much to sprinkle but once at any time during the sprinkling season as it will to sprinkle each day at the prescribed hours during the entire season.

Sprinkling must be confined to the hours between 5 and 8 A. M., 12 and 1 P. M., and 5 and 8 P. M., nor during said intervals more than one hour at a time. Persons who exceed one hour may be charged at fountain rates, or held liable for violation of the rules, at the option of the Commissioners.

Water fixtures will be assessed for each and every purpose available, and for each family or establishment within the enclosure or separated only by a door, gateway, or other means of easy communication.

No abatement of charges shall be allowed for vacancy of premises, except from the date that notice has been given at the office of the Commissioners of Water Works that they are unoccupied.

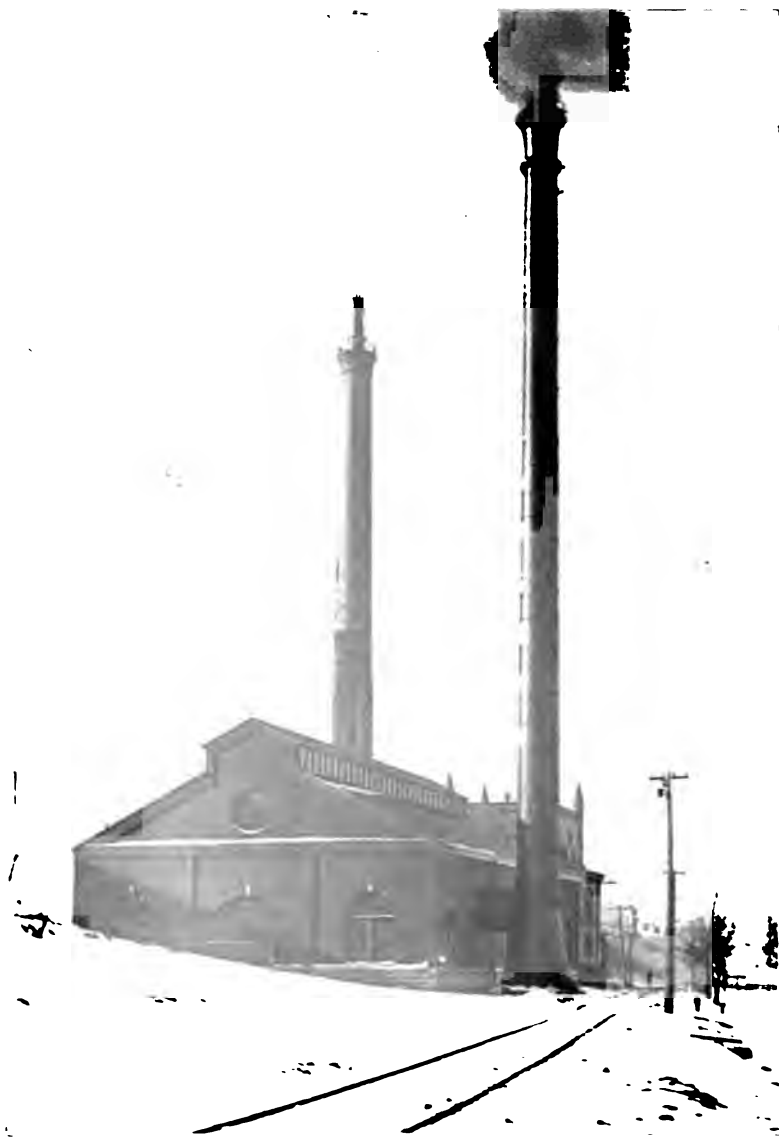
The Commissioners may limit or stop the supply of water in cases of emergency and shut it off for repairs or extensions, they being the judges of the time and necessity. Neither the Commissioners nor the City of Erie shall be liable in damages for any insufficient supply of city water.

For each and every violation of the rules and regulations of the Water Works, the offending party will be subject to a fine of not less than FIVE nor more than FIFTY DOLLARS.

Meter Rates.

Six (6) cents for each one thousand (1,000) gallons by meter measurement. *Provided* the minimum receipts per quarter shall be for a

| | | |
|----------------------------------|----|-------|
| $\frac{3}{4}$ -inch or less..... | \$ | 3 75 |
| 1-inch | | 4 50 |
| 1 $\frac{1}{2}$ -inch | | 6 25 |
| 2-inch | | 10 00 |
| 3-inch | | 18 75 |
| 4-inch | | 38 75 |



NEW BOILER HOUSE, AND SELF-SUSTAINING STEEL PLATE CHIMNEY.

STATEMENT OF WORK DONE BY INSPECTOR No. 1, IN 1898.

| MONTHS. | TURNED OFF ACCOUNT. | | | TURNED ON ACCOUNT. | | NEW HOUSES. | | FIXTURES. | | | | | Totals. | |
|----------------|---------------------|------------|------------------|--------------------|-----------|--------------------|------------|-------------|---------|------------|----------|------------------|---------|------------|
| | Unpaid. | Vacancies. | Leaks and Waste. | Paid. | Occupied. | Building Purposes. | Completed. | Com-plants. | Frozen. | Installed. | Removed. | Leaks and Waste. | | Vacancies. |
| January..... | | 43 | 1 | | 35 | 11 | 15 | 2 | 4 | 75 | 55 | 2 | | 243 |
| February..... | | 23 | 3 | | 19 | 3 | 12 | 2 | 52 | 31 | 12 | 2 | | 159 |
| March..... | | 19 | 1 | | 84 | 5 | 35 | 1 | 1 | 202 | 18 | 1 | 387 | 754 |
| April..... | | 50 | 1 | | 72 | 6 | 39 | 3 | 1 | 234 | 20 | 3 | | 458 |
| May .. | | 64 | | 3 | 44 | 11 | 34 | 3 | | 214 | 12 | 2 | 66 | 453 |
| June..... | 1 | 29 | | 1 | 53 | 10 | 43 | 3 | | 273 | 2 | 2 | 396 | 813 |
| July..... | 1 | 23 | 3 | 3 | 44 | 11 | 32 | 1 | | 155 | | 1 | | 275 |
| August..... | | 25 | | | 30 | 6 | 12 | 4 | | 56 | 7 | 1 | | 144 |
| September..... | | 31 | | | 47 | 6 | 30 | 1 | | 155 | 5 | | 180 | 455 |
| October..... | | 59 | | | 33 | 10 | 48 | | | 125 | 4 | | | 279 |
| November..... | 2 | 6 | 3 | 1 | 31 | 6 | 38 | 2 | | 100 | 13 | 1 | | 203 |
| December..... | | 5 | | | 11 | 3 | 13 | 2 | | 128 | 15 | 1 | 397 | 575 |
| Totals..... | 4 | 377 | 12 | 8 | 503 | 88 | 351 | 24 | 58 | 1,748 | 163 | 19 | 1,426 | 4,781 |

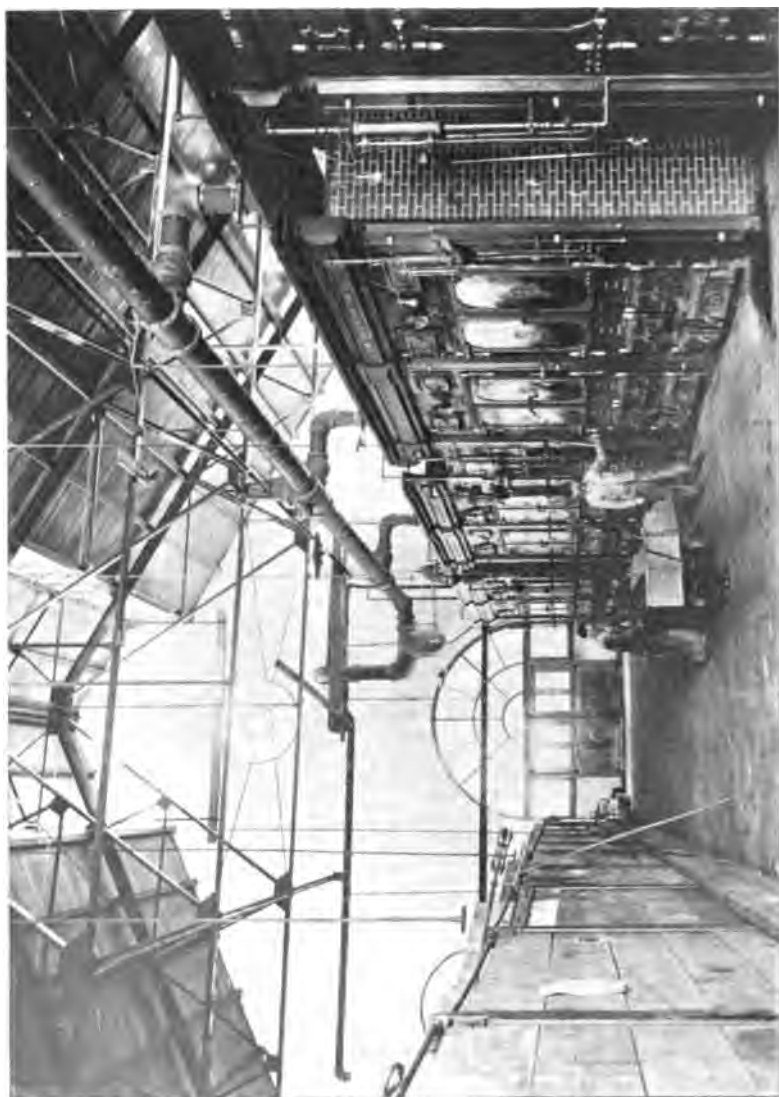
STATEMENT OF WORK DONE BY INSPECTOR No. 2, IN 1898.

| MONTHS. | TURNED OFF ACCOUNT. | | | TURNED ON ACCOUNT. | | NEW HOUSES. | | | FIXTURES. | | | | | Totals |
|----------------|---------------------|------------|------------------|--------------------|-----------|--------------------|------------|--------------|-----------|------------|----------|------------------|------------|--------|
| | Unpaid. | Vacancies. | Leaks and Waste. | Paid. | Occupied. | Building Purposes. | Completed. | Com-plaints. | Frozen. | Installed. | Removed. | Leaks and Waste. | Vacancies. | |
| January..... | 3 | 5 | 1 | | 1 | 1 | 1 | 2 | | 1 | | | | 6 |
| February..... | 1 | | | 1 | 14 | 1 | 4 | | | 10 | 4 | | 44 | 86 |
| March..... | | | | | 2 | 1 | | | | | | | | 5 |
| April..... | | | | | 1 | | | | | | | | | 1 |
| May..... | 6 | | | | | | | | | 14 | | | | 20 |
| June..... | | | | | | | | | | | | | | |
| July..... | | | | | 2 | | | | | | | | | |
| August..... | 4 | 9 | | 1 | 22 | 9 | 1 | | | 25 | 11 | | 138 | 2 |
| September..... | | | | | | | | | | | | | | 220 |
| October..... | | | | 1 | 2 | 2 | | 2 | | | | | | 7 |
| November..... | 2 | | | 1 | 9 | | | | | 7 | 1 | | | 20 |
| December..... | | | | | | | | | | 9 | 1 | | 69 | 79 |
| Total..... | 16 | 14 | 1 | 4 | 53 | 14 | 6 | 4 | | 66 | 17 | | 251 | 446 |

STATEMENT OF WORK DONE BY INSPECTOR No. 3, IN 1898.

| MONTHS. | TURNED OFF ACCOUNT. | | | TURNED ON ACCOUNT. | | NEW HOUSES. | | FIXTURES. | | | | | Totals. | |
|----------------|---------------------|------------|------------------|--------------------|-----------|--------------------|------------|--------------|---------|------------|----------|------------------|---------|------------|
| | Unpaid. | Vacancies. | Leaks and Waste. | Paid. | Occupied. | Building Purposes. | Completed. | Com-plaints. | Frozen. | Installed. | Removed. | Leaks and Waste. | | Vacancies. |
| January..... | 2 | ..... | 1 | ..... | 1 | ..... | ..... | ..... | ..... | 17 | ..... | ..... | ..... | 19 |
| February..... | 5 | ..... | ..... | 1 | 1 | ..... | ..... | ..... | ..... | 24 | 1 | ..... | ..... | 29 |
| March..... | ..... | ..... | ..... | 1 | 3 | ..... | 2 | ..... | ..... | ..... | ..... | ..... | ..... | 13 |
| April..... | ..... | 29 | ..... | ..... | 10 | 1 | 1 | ..... | ..... | 14 | 5 | ..... | ..... | 60 |
| May..... | 5 | 16 | ..... | ..... | 6 | 1 | ..... | ..... | ..... | 17 | 4 | ..... | ..... | 49 |
| June..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4 | ..... | ..... | ..... | 4 |
| July..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 1 |
| August..... | 3 | 1 | ..... | ..... | 2 | ..... | ..... | ..... | ..... | 14 | ..... | ..... | ..... | 20 |
| September..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| October..... | 1 | ..... | 1 | ..... | ..... | ..... | 3 | ..... | ..... | 9 | 1 | ..... | ..... | 15 |
| November..... | 2 | ..... | ..... | 2 | 2 | ..... | 1 | ..... | ..... | 21 | ..... | ..... | ..... | 28 |
| December..... | ..... | 86 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 7 | 1 | ..... | ..... | 94 |
| Total..... | 18 | 132 | 2 | 4 | 25 | 2 | 7 | ..... | ..... | 130 | 12 | ..... | ..... | 332 |

WATER WORKS IN THE CITY OF ERIE.



INTERIOR VIEW.—NEW BOILER HOUSE.

Statement of Work Done at Annual Inspection by Inspector No. 2 in 1898.

| WARD. | NUMBER OF | | | | NO. OF SPRINKLERS. | | | | NUMBER OF | | | NUMBER OF | | | | | TOTAL. | |
|--------------|---------------------|-------------|-----------|--------------|--------------------|----------|-------|-------------|------------|------------|---------------------|--------------|----------|--------------|------------|------------------|--------|---------------------|
| | Premises Inspected. | Draw Cocks. | Hydrants. | Goose Necks. | Curb. | Hydrant. | Lawn. | Sill Cocks. | Bath Tubs. | Wash Tubs. | Non-Closing Hopper. | Pan or Tank. | Urinals. | Hand Basins. | Air Pumps. | Heating Boilers. | | Manufact'g Engines. |
| First..... | 1,321 | 1,476 | 198 | 9 | 71 | 38 | 48 | 354 | 307 | 92 | 59 | 700 | 38 | 363 | 6 | 11 | 9 | 5,097 |
| Second..... | 2,119 | 2,539 | 295 | 4 | 52 | 38 | 61 | 425 | 324 | 46 | 33 | 1,045 | 70 | 436 | 23 | 20 | 13 | 7,543 |
| Fifth..... | 1,060 | 1,224 | 110 | 5 | 19 | 25 | 52 | 204 | 128 | 15 | 19 | 264 | 11 | 78 | 6 | 13 | 3 | 3,236 |
| Seventh..... | 35 | 29 | 3 | ..... | 1 | 2 | 2 | 5 | 1 | ..... | ..... | 4 | ..... | 2 | ..... | ..... | ..... | 84 |
| Total..... | 4,535 | 5,268 | 606 | 18 | 143 | 103 | 163 | 988 | 760 | 153 | 111 | 2,013 | 119 | 879 | 35 | 44 | 22 | 15,960 |

Statement of Work Done at Annual Inspection by Inspector No. 3 in 1898.

| | | | | | | | | | | | | | | | | | | |
|--------------|-------|-------|-----|----|-----|-----|-----|-------|-------|-----|-----|-------|-----|-------|----|----|----|--------|
| Third..... | 1,858 | 2,446 | 199 | 11 | 105 | 52 | 105 | 669 | 702 | 243 | 81 | 1,695 | 89 | 924 | 21 | 41 | 18 | 9,259 |
| Fourth..... | 1,512 | 1,804 | 249 | 14 | 168 | 77 | 106 | 516 | 582 | 276 | 11 | 1,233 | 67 | 746 | 9 | 45 | 7 | 7,422 |
| Sixth..... | 1,230 | 1,394 | 151 | 7 | 29 | 52 | 106 | 401 | 181 | 49 | 23 | 408 | 26 | 186 | 6 | 6 | 5 | 4,260 |
| Seventh..... | 23 | 17 | 7 | | 4 | | 19 | 4 | 2 | | | 2 | | 2 | | | | 80 |
| Total..... | 4,623 | 5,661 | 606 | 32 | 306 | 181 | 336 | 1,590 | 1,467 | 568 | 115 | 3,338 | 182 | 1,858 | 36 | 92 | 30 | 21,021 |

PUMPING STATISTICS.

There are four pumping engines.

Nos. 1 and 2 are Cornish Bull Pumps, erected in 1868; alike in their dimensions, which are as follows: Steam Cylinders, 60 inches in diameter; Pump Plunger, 20 $\frac{3}{4}$ inches in diameter, each 10-foot stroke, capacity being 165 gallons per stroke, pumping 2 000,000 gallons daily. These pumps are out of commission, the cost for repairs being greater than they are worth.

No. 3 is a Gaskill Horizontal Compound Pumping Engine, erected in 1886, having two H. P. Cylinders 21 inches in diameter, two L. P. Cylinders 42 inches in diameter, two pumps 19 $\frac{1}{2}$ inches in diameter, all 36-inch stroke; capacity being 182 gallons per revolution, pumping 5,000,000 gallons daily.

No. 4 is a Worthington Horizontal Compound High Duty Pumping Engine, erected in 1893, having two H. P. Cylinders 33 inches in diameter, two L. P. Cylinders 66 inches in diameter, two pumps 29 inches in diameter, all 49 $\frac{1}{4}$ -inch stroke; capacity being 552 gallons per stroke, pumping 12,000,000 gallons per day, at a piston speed of 128 feet per minute, against a head of 260 feet.

There are two intakes, one constructed in 1868, of which 52 feet is brick 14 feet in diameter, 590 feet is wood 4 $\frac{1}{4}$ feet in diameter, and 333 feet is boiler iron 4 feet in diameter, making a total length of 975 feet. The top of the outer end of this intake is four feet below the zero level of the bay, and as it approaches the shore ascends till the top is only two feet above the zero level of the bay. *This intake has not been used since the new one was completed, and as the part made of wood has not been submerged for some time it is undoubtedly past use.* The second intake was completed in 1896. It is made of cast iron 60 inches internal diameter, 8 307.18 feet long, buried in the bottom of the bay; at no place is there less than three feet of earth over its top. The outer end terminates in an octagonal crib, 40 feet being its extreme width and 8 feet high, the top being 13 feet below the zero level of the bay. So far as we know, this is the longest single piece of submerged 60-inch cast iron pipe in the world.

The standpipe was erected in 1868. It is five feet in diameter and 259.65 feet in height. A spiral staircase surrounds it and all enclosed in brick. So far as we know, this is the tallest standpipe in the world.

The boiler house is 74 feet wide, 102 feet long, and 25 feet from floor line to bottom of cords to roof. On the north side eight horizontal tubular boilers are installed in batteries of two each. The boilers are 72 inches in diameter, 18 feet long, without domes, and contain eighty 4-inch lap welded tubes, capable of carrying 150 lbs. pressure to the square inch.

On the south side of the house can be erected an equal number of the same size boilers, but until these are required the room is used for storing coal; the bins now in place hold 800 tons of coal.

On the north side of the boiler house, near its east end, is a self-sustaining steel plate chimney, 175 feet high, 75 inches internal diameter, lined with fire-brick to a height of 80 feet.

The Reservoir is about two miles distance from the Pumping Station, the bottom of which is 210 feet above the zero level of the water in the bay, and when the water is carried to a depth of 27 feet, holds 32,952,934 gallons of water.

The regular employees at the Pumping Works are one chief engineer, two assistant engineers, four firemen, one assistant fireman, two laborers and one janitor. The chief engineer stands a watch of five hours, from 7 to 12 every forenoon; the assistants divide the remainder of each day equally between them. The chief engineer gives daily ten hours service; when not on watch, is employed in repairs, supervision, etc. In addition to standing their regular watch, the assistant engineers aid their superior officer in keeping the machinery in order. The firemen alternate monthly in care of and operating the electric light plant. The laborers take care of the grounds and do such other work as may be required of them. The janitor takes care of the buildings.

FIRE HYDRANTS PLACED IN 1898.

| STREET. | LOCATION. | SIZE. | STYLE. | REMARKS. |
|--------------------|---|--------|--------------|---|
| Front.. | N. W. Corner Holland | 6-inch | Matthews. | ..... |
| Fourth | S. W. Corner Sasfras. | 4-inch | " | In place of Pittsburgh taken out. |
| Seventh..... | 51 ² feet West of Wayne. | 4-inch | " | ..... |
| Twelfth..... | S. W. Corner Wayne | 4-inch | " | Matthews Hyd't taken out N.W. c. 12th & Wayne |
| Fourteenth | Between French and Holland | 6-inch | " | } On property of Lovell Manufacturing Co..... |
| " | Between French and Holland | 6-inch | " | ..... |
| " | 242 ¹⁰ feet West of Holland | 4-inch | " | ..... |
| Fifteenth | N. W. Corner Reed | 4-inch | " | Matthews Hydrant 216 ¹ ft. W. of Reed taken out. |
| Eighteenth | N. W. Corner Buffalo Road | 4-inch | " | In place of Pittsburgh taken out. |
| Nineteenth | 579 ⁴ feet East of Wayne. | 4-inch | " | ..... |
| Brown Avenue..... | 193 ² feet West of Cascade | 4-inch | Old Matthews | ..... |
| Twenty-second..... | 298 ⁴ feet West of Raspberry | 4-inch | Bay State. | ..... |
| Twenty-third | 205 ² feet West of Pennsylvania Ave. | 4-inch | " | ..... |
| Queen..... | 386 ² feet East of East Avenue | 4-inch | " | ..... |
| East Avenue..... | 818 feet South of Fifteenth | 4-inch | Matthews. | ..... |
| " | S. E. Corner Twenty-third | 4-inch | " | In place of Pittsburgh taken out. |
| Wallace..... | N. E. Corner Twenty-first | 4-inch | " | ..... |
| Parade | S. E. Corner Sixth | 4-inch | " | In place of Bay State taken out. |
| " | S. W. Corner Eleventh | 6-inch | " | ..... |
| " | S. W. Corner Tenth | 6-inch | " | ..... |
| " | N. W. Corner Ninth | 6-inch | " | ..... |
| " | S. W. Corner Seventh | 6-inch | " | ..... |
| " | S. W. Corner Sixth | 6-inch | " | ..... |
| " | S. W. Corner Fifth | 6-inch | " | ..... |
| French | 57 ² feet South of Sixth | 6-inch | " | Bay State Hyd't taken out S.W.c. French & P. Row |
| Peach..... | N. E. Corner Twenty third | 4-inch | " | In place of Bay State taken out. |
| Walnut | S. E. Corner Third | 4-inch | " | In place of West Jersey taken out. |
| " | 331 feet South of Twelfth | 6-inch | " | In place of Matthews taken out. |
| " | S. E. Corner Seventh | 4-inch | " | ..... |
| Raspberry..... | 163 ⁴ feet South of Twenty-second | 4-inch | Bay State. | ..... |

**SUMMARY OF
FIRE HYDRANTS PLACED AND REMOVED IN 1898.**

| | PLACED. | SIZE. | NUMBER. | |
|------------------|----------|---------|-----------|----|
| STYLE— | | | | |
| Matthews..... | | 4-inch. | 15 | |
| Matthews..... | | 6-inch. | 9 | |
| Bay State..... | | 4-inch. | 4 | |
| | | | <u>28</u> | |
| | REMOVED. | | | |
| STYLE— | | | | |
| Matthews..... | | 4-inch. | 3 | |
| Pittsburgh..... | | 4-inch. | 3 | |
| Bay State..... | | 4-inch. | 3 | |
| West Jersey..... | | 4-inch. | 1 | |
| | | | <u>10</u> | |
| | | | | 18 |

Private Hydrants Placed.

| STYLE— | SIZE. | NUMBER. | |
|--------------------------------------|---------|----------|------------|
| Matthews..... | 6-inch. | 2 | |
| | | <u>2</u> | |
| Total increase | | | 20 |
| Number in use December 31, 1897..... | | | <u>523</u> |
| Total in use December 31, 1898..... | | | 543 |

Main Pipe Laid in 1898.

| LOCATION. | SIZES. | | | | | | | | REMARKS. |
|---|-----------|-----------|-----------|-----------|-----------|-----------|----|--|---|
| | 2-in. | 4-in. | 6-in. | 12-in. | 24-in. | 30-in. | | | |
| Front St., cor. Holland..... | Feet. In. | Feet. In. | Feet. In. | Feet. In. | Feet. In. | Feet. In. | | | |
| Front St., from Sassafras westward..... | 134 | 8 | 22 | | | | | | Hydrant Branch. |
| Front St., at Pumping Station..... | | | | | | | | | |
| Front St., bet. Chestnut and Walnut..... | | | | *113 | 98 | 52 | 3 | | *Blow-off for 24-inch main. |
| Third St., from Parade westward..... | | | 167 | | 736 | | | | |
| Third St., cor. Parade..... | | | 10 | | | | | | Hydrant Branch. |
| Fifth St., bet. East and Penn'a Ave..... | | | 72 | 4 | | | | | |
| Fifth St., from German westward..... | | | 126 | | | | | | |
| Seventh St., bet. Reed and Perry..... | | | 341 | 9 | | | | | |
| Seventh St., bet. Reed and Wayne..... | | | 9 | 6 | | | | | Hydrant Branch |
| Eighth St., bet. Sassafras and Myrtle..... | 15 | | | | | | | | |
| Ninth St., intersection of Liberty..... | | | 20 | | | | | | |
| Tenth St., bet. Cascade and Raspberry..... | | | 134 | | | | | | |
| Twelfth St., cor. Wayne..... | | | 37 | | | | | | Hydrant Branch. |
| Twelfth St., from Wayne to Parade..... | | | | | 2764 | 6 | | | } Hydrant Br'ch N. W. cor. 12th & Wayne taken out 13 ft. 4-in. pipe |
| Fourteenth St., bet. French and Holland..... | | | 88 | 5 | | | | | †For Lovell Manufacturing Co. |
| Fourteenth St., bet. French and Holland..... | | | 299 | | | | | | Hydrant Branch. |
| Fourteenth St., bet. French and Holland..... | 10 | | | | | | | | Hydrant Branch. |
| Fifteenth St., cor. Reed..... | 9 | 8 | | | | | | | |
| Fifteenth St., bet. Ash and Reed..... | | | 384 | 5 | | | | | |
| Nineteenth St., from Chestnut eastward..... | | | 30 | | | | | | } Hydrant Branch bet. Ash & Reed taken out 7 ft. 4-in. pipe. |
| Nineteenth St., intersection of Cherry..... | | | 36 | | | | | | In place of 30 ft. 6-in. taken out. |
| Nineteenth St., from Wayne eastward..... | | | 599 | 4 | | | | | |
| Nineteenth St., bet. Chestnut and Walnut..... | | | | | 721 | 4 | | | |
| Nineteenth St., bet. Walnut and Cherry..... | | | | | | 723 | 10 | | |
| Twentieth St., intersection of Chestnut..... | | | 14 | 6 | | | | | Hydrant Branch. |
| Brown Ave., bet. Cascade and Raspberry..... | 15 | | | | | | | | |
| Twenty-first St., from Liberty westward..... | | | 234 | 6 | | | | | |
| Twenty-first St., intersection of Chestnut..... | | | | 24 | | | | | |
| Twenty-second St., bet. Plum and Cascade..... | | | 352 | 6 | | | | | |

| | | | | | | | | |
|--|----|----|------|----|--|--|--|--------|
| Twenty-second St., bet. Cascade and Raspby'. | | | 311 | 2 | | | | |
| Twenty-second St., from Raspberry westward | | | 337 | 4 | | | | |
| Twenty second St., bet. Cherry and Poplar..... | | | 132 | | | | | |
| Twenty-second St., bet. Raspberry & Cranby' | | 7 | 6 | | | | | |
| Twenty-third St., bet. East and Penn'a Ave.... | | | 129 | 4 | | | | |
| Twenty-fourth St., from East Ave. westward..... | | | 232 | 10 | | | | |
| Twenty-fifth St., from Brandes westward..... | | | 42 | 6 | | | | |
| Twenty-sixth St., from Ash westward..... | | | 112 | | | | | |
| Twenty-sixth St., from Chestnut westward..... | | | 872 | | | | | |
| East Ave., bet. Fifteenth and Sixteenth..... | | 13 | 10 | | | | | |
| Wayne St., from Fourteenth southward..... | | | 124 | | | | | |
| Wayne St., from Eighteenth southward..... | | | 440 | | | | | |
| Wallace St., bet. Fourth and Fifth..... | | | 60 | | | | | |
| Wallace St., cor. Twenty-first..... | | | 10 | | | | | |
| Parade St., bet. Second and Fourth..... | | | 462 | | | | | |
| Parade St., cor. Fourth..... | | | 6 | | | | | |
| Parade St., cor. Eleventh..... | | | 10 | 10 | | | | |
| Parade St., cor. Tenth..... | | | 10 | 11 | | | | |
| Parade St., cor. Ninth..... | | | 10 | 11 | | | | |
| Parade St., cor. Eighth..... | | | 10 | 11 | | | | |
| Parade St., cor. Seventh..... | | | 10 | 10 | | | | |
| Parade St., cor. Sixth..... | | | 10 | 8 | | | | |
| Parade St., from Twelfth to Fifth..... | | | 2814 | 7 | | | | |
| German St., from Fifth southward..... | | | 171 | 6 | | | | |
| French St., bet. Sixth and South Park Row..... | | | 45 | | | | | |
| Myrtle St., from Twenty-second southward..... | | | 212 | | | | | |
| Chestnut St., bet. Twenty-sixth & Twenty-sev'th..... | | | 72 | 6 | | | | |
| Chestnut St., from Nineteenth to Twenty-first..... | | | 643 | 1 | | | | |
| Walnut St., cor. Thirteenth..... | | | 10 | 5 | | | | |
| Walnut St., cor. Seventh..... | | 10 | | | | | | |
| Walnut St., cor. Nineteenth..... | | | | | | | | |
| Walnut St., bet. Thirteenth and Huron..... | 12 | | 643 | | | | | |
| Walnut St., from Front to Nineteenth..... | | | | | | | | 6629 3 |
| Poplar St., from Eighth southward..... | | | 108 | | | | | |

† Private pipe for Lovell Manufacturing Co.

Main Pipe Laid in 1898—Continued.

| LOCATION. | SIZES. | | | | | | | | | | | | REMARKS. | |
|---|--------|-----|-------|-----|-------|-----|--------|-----|--------|-----|--------|-----|----------|-----------------|
| | 2-in. | | 4-in. | | 6-in. | | 12-in. | | 24-in. | | 30-in. | | | |
| | Feet. | In. | Feet. | In. | Feet. | In. | Feet. | In. | Feet. | In. | Feet. | In. | | |
| Poplar St., bet. Fourth and Fifth. | | | | | 48 | 6 | | | | | | | | |
| Liberty St., from Eighth to Ninth..... | | | | | 349 | 4 | | | | | | | | |
| Plum St., bet. Twenty-sixth & Twenty-seventh | | | | | 37 | 3 | | | | | | | | |
| Raspberry St., bet. Twenty-second & Twenty-third | | | 8 | | | | | | | | | | | |
| Raspberry St., from Twenty-sixth southward..... | | | | | 435 | | | | | | | | | Hydrant Branch. |
| Penn'a Ave., from Columbus northward..... | 70 | | | | | | | | | | | | | |
| Chestnut Lane, from Pine Ave. westward..... | | | | | 199 | | | | | | | | | |
| Brandes St., bet. Twenty-fifth & Twenty-sixth.... | | | | | 204 | 6 | | | | | | | | |
| Columbus St., bet. Brandes and Penn'a Ave..... | | | | | 261 | | | | | | | | | |
| Columbus St., bet. Brandes and Penn'a Ave.. | 265 | 8 | | | | | | | | | | | | |
| Queen St., bet. East Ave. and Penn'a Ave..... | | | 6 | | | | | | | | | | | Hydrant Branch. |
| Totals..... | 347 | 8 | 229 | 8 | 9111 | 6 | 7080 | 6 | 8187 | 1 | 52 | 3 | | |
| | | | | | 1299 | | | | | | | | | |
| | | | | | 8812 | 6 | | | | | | | | |

† Private pipe Lovell Manufacturing Co.

Summary of Main Pipe Laid and Removed in 1898.

| PIPE LAID— | | Feet. Inches. | |
|---------------------------|-------|----------------|--------|
| 2-inch..... | 347 | 8 | |
| 4 "..... | 229 | 8 | |
| 6 "..... | 8,812 | 6 | |
| 12 "..... | 7,080 | 6 | |
| 24 "..... | 8,187 | 1 | |
| 30 "..... | 52 | 3 | |
| | | Total, 24,709 | |
| | | | 8 |
| PIPE REMOVED— | | | |
| 4-inch..... | 30 | 9 | |
| 6 "..... | 89 | | |
| | | 119 | |
| | | | 9 |
| | | Total, 24,589 | |
| | | | 11 |
| Private pipe laid for | | | |
| Lovell Manfg. Co., | | 299 | |
| 6-inch..... | | | |
| | | Net total..... | |
| | | | 24,888 |
| | | | 11 |
| | | Or | |
| | | 4 miles | 3,768 |
| | | | 11 |
| Previously reported. | | 96 miles | 80 |
| | | | 6 |
| Grand total..... | | 100 miles | |
| | | | 3,849 |
| | | | 5 |



CROSSES PLACED IN 1898.

| Size. | NUMBER. |
|-------------------|---------|
| 2 x 2-inch..... | 1 |
| 6 x 6-inch..... | 12 |
| 12 x 6-inch..... | 14 |
| 12 x 8-inch..... | 2 |
| 12 x 12-inch..... | 2 |
| 24 x 12-inch..... | 1— 32 |

CROSSES REMOVED IN 1898.

| Size. | NUMBER. |
|-------------------|---------|
| 6 x 4-inch..... | 4— 4 |
| Net increase..... | 28 |

TEES PLACED IN 1898.

| Size. | NUMBER. |
|------------------------|---------|
| 4 x 4-inch..... | 4 |
| 6 x 4-inch..... | 2 |
| 6 x 6-inch..... | 12 |
| 12 x 6-inch..... | 13 |
| 12 x 12-inch..... | 3 |
| 24 x 24 x 12-inch..... | 1 |
| 24 x 24 x 20-inch..... | 1— 36 |

TEES REMOVED IN 1898.

| Size. | NUMBER. |
|-------------------|---------|
| 4 x 4-inch..... | 1 |
| 6 x 4-inch..... | 1— 2 |
| Net increase..... | 34 |

Stop Valves Placed in 1898.

| Street. | Where Located. | Size | Style. | Remarks. |
|----------------------------|--|------|--------|---|
| Front..... | West line of Sassafras..... | 4 | Eddy. | |
| Water Works Grounds.... | 3 ft. S. of N. line and 61 ft. W. of W. line of Engine Hse No. 1 | 12 | Eddy. | |
| Water Works Grounds.... | 34 ⁶ ft. N. of N. line and 59 ft. W. of W. line of Engine Hse No. 1 | 6 | Curtis | { High Pressure Water Relief, Flanged. |
| Water Works Grounds ... | 34 ⁶ ft. N. of N. line and 61 ft. W. of W. line of Engine Hse No 1 | 12 | Eddy. | Flanged |
| Water Works Grounds.... | 34 ⁶ ft. N. of N. line and 63 ft. W. of W. line of Engine Hse No. 1 | 6 | Curtis | { High Pressure Water Relief, Flanged. |
| Third..... | West line of Parade..... | 6 | Eddy. | |
| "..... | East line of German. | 4 | " | |
| Fifth..... | West line of German..... | 6 | " | |
| Sixth..... | West line of Parade..... | 6 | " | |
| Seventh..... | East line of Wayne..... | 6 | " | |
| "..... | West line of Wayne..... | 6 | " | |
| Tenth..... | East line of Parade..... | 6 | " | |
| Twelfth..... | East line of Reed..... | 12 | " | |
| "..... | West line of Reed..... | 6 | " | |
| "..... | East line of Ash..... | 12 | " | |
| "..... | West line of Wayne..... | 6 | " | |
| "..... | East line of Wallace..... | 6 | " | |
| "..... | West line of Wallace..... | 6 | " | |
| "..... | East line of Wallace..... | 12 | " | |
| "..... | West line of Ash..... | 6 | " | |
| "..... | East line of Parade..... | 12 | " | |
| Fifteenth..... | West line of Reed..... | 6 | " | |
| "..... | East line of Reed..... | 6 | " | |
| Nineteenth..... | West line of Hollano..... | 4 | " | |
| "..... | East line of Walnut..... | 12 | " | |
| "..... | West line of Walnut..... | 24 | " | |
| "..... | East line of Chestnut..... | 6 | " | |
| "..... | East line of Cherry..... | 6 | " | |
| "..... | East line of Wayne..... | 6 | " | |
| Twentieth..... | East line of Chestnut..... | 6 | " | |
| "..... | 2 ft. E. of E. line of Chest. | 4 | " | |
| Twenty-first..... | West line of Liberty..... | 6 | " | |
| Twenty-second..... | West line of Raspberry..... | 6 | " | |
| "..... | West line of Myrtle..... | 4 | " | |
| Twenty-fourth..... | West line of East Ave..... | 6 | " | |
| Twenty-fifth..... | West line of Brandes..... | 6 | " | |
| Twenty-sixth..... | West line of Chestnut..... | 12 | " | |
| "..... | 21 ft. N. of S. line 26th | | Pratt | |
| "..... | 627 ft. E. of Cherry..... | 12 | & Cady | Swing Check, Flanged. |
| "..... | 21 ft. S. of N. line 26th | | | |
| "..... | 614 ft. E. of Cherry..... | 12 | Eddy. | |
| "..... | 21 ft. S. of N. line 26th | | Pratt | |
| "..... | 627 ft. E. of Cherry..... | 8 | & Cady | Back Pressure, Flanged. |
| "..... | 19 ft. S. of N. line 26th | | | |

Stop Valves Placed in 1898—Continued.

| Street. | Where Located. | Size | Style. | Remarks. |
|-----------------|--|------|--------------|---|
| Twenty-sixth | 627 ft. E. of Cherry..... | | Pratt | |
| | 23 ft. S. of N. line 26th | 8 | &Cady | Back Pressure, Flanged. |
| Brandes..... | South line of 25th..... | 6 | Eddy. | |
| East Avenue.. | 82 ⁹ ft. N. of Buffalo Rd | | | |
| | 27 ft. W. of E. l. E. Ave | 12 | Eddy. | |
| " " | 72 ⁶ ft. N. of Buffalo Rd | | Pratt | |
| " " | 27 ft. W. of E. l. E. Ave | 12 | &Cady | Swing Check, Flanged. |
| " " | 72 ⁶ ft. N. of Buffalo Rd | | Pratt | |
| " " | 25 ft. W. of E. l. E. Ave | 8 | &Cady | Back Pressure, Flanged. |
| " " | 72 ⁶ ft. N. of Buffalo Rd | | Pratt | |
| " " | 29 ft. W. of E. l. E. Ave | 8 | &Cady | Back Pressure, Flanged. |
| Wayne..... | South line of 18th..... | 6 | Eddy. | |
| Wallace..... | North line of 12th..... | 6 | " | |
| Parade..... | South line of 3d..... | 6 | " | |
| " | North line of 12th..... | 4 | " | |
| " | North line of 12th..... | 12 | " | |
| " | South line of 11th..... | 4 | " | |
| " | North line of 11th..... | 4 | " | |
| " | South line of 9th..... | 4 | " | |
| " | North line of 9th..... | 4 | " | |
| " | South line of 8th..... | 4 | " | |
| " | South line of 11th..... | 12 | " | |
| " | North line of 11th..... | 12 | " | |
| " | 25 ⁶ ft. N. of S. line of 10th | 12 | " | |
| " | North line of 10th..... | 12 | " | |
| " | South line of 9th..... | 12 | " | |
| " | North line of 9th..... | 12 | " | |
| " | South line of 8th..... | 12 | " | |
| " | North line of 8th..... | 12 | " | |
| " | North line of 8th..... | 4 | " | |
| " | South line of 7th..... | 12 | " | |
| " | North line of 7th..... | 12 | " | |
| " | 31 ⁶ ft. N. of S. line of 6th.. | 12 | " | |
| " | 22 ft. N. of S. line of 6th.. | 4 | " | |
| " | North line of 6th..... | 12 | " | |
| " | South line of 5th..... | 12 | " | |
| " | South line of 5th..... | 6 | " | |
| Chestnut..... | North line of 21st..... | 12 | " | { For High Pressure System. |
| Walnut..... | 339 ⁸ ft. S. of S. l. of 12th.. | 6 | " | |
| " | 17 ft. W. of E. l. Waln. } | | | |
| " | 2 ⁴ ft. N. of N. line 19th } | 2 | Hays. | |
| " | 2 ⁴ ft. N. of N. line 19th } | | | |
| " | 11 ft. W. of E. l. Waln.. } | 2 | Hays. | { For use on blow-off. for 24-inch pipe. |
| Cherry..... | 13 ft. S. of N. line 19th.. | 6 | Eddy. | |
| " | 20 ft. S. of N. line 19th.. | 6 | Eddy. | |
| " | 16 ⁶ ft. S. of N. line 19th.. | 6 | Pratt & Cady | Swing Check Valve. |
| Liberty..... | South line of 8th..... | 6 | Eddy | |
| Raspberry..... | South line of 26th..... | 6 | Eddy. | |
| Columbus..... | East line of Penn'a Ave... | 2 | Hays. | |
| Chestnut Lane.. | West line of Pine Ave..... | 6 | Eddy. | |

Summary of Stop Valves Placed and Removed in 1898.

| PLACED. | | SIZE. | NUMBER. |
|--|---------|-------|---------|
| STYLE— | | | |
| Hays..... | 2-inch | 3 | |
| Eddy..... | 4-inch | 13 | |
| Eddy..... | 6-inch | 32 | |
| Curtis High Pressure Water Relief Flange Valve.. | 6-inch | 2 | |
| Pratt & Cady Swing Check Valve..... | 6-inch | 1 | |
| Pratt & Cady Back Pressure Flanged Valve..... | 8-inch | 4 | |
| Eddy Flanged Valve..... | 12-inch | 1 | |
| Eddy..... | 12-inch | 24 | |
| Pratt & Cady Swing Check Flanged Valve..... | 12-inch | 2 | |
| Eddy..... | 24-inch | 1 | |
| Total..... | | | 83 |
| REMOVED. | | | |
| Ludlow..... | 6-inch | 1 | |
| Eddy (reported, but not set in 1890)..... | 12-inch | 1 | 2 |
| ADD. | | | |
| Eddy (reported, but not abandoned in 1892)..... | 6-inch | 1 | 1 |
| Total increase..... | | ... | 82 |



CONNECTIONS MADE IN 1898.

| SIZE. | NUMBER. | |
|---|---------------------|---------------------|
| $\frac{3}{4}$ -inch | 319 | |
| Less removed or abandoned..... | 7 | |
| | — | 312 |
| 1- inch | 3 | |
| $1\frac{1}{2}$ " | 1 | |
| 2 " | 8 | |
| 4 " | 1 | |
| 6 " | 3 | |
| | — | 328 |
| Amount of pipe used for above..... | | 5,754 $\frac{1}{2}$ |
| Less $\frac{3}{4}$ -inch connections removed or abandoned | 104 $\frac{1}{2}$ | |
| Abandoned in altering 54 connections..... | 2,033 $\frac{1}{2}$ | 2,138 $\frac{3}{2}$ |
| Net increase of service pipe..... | | 3,615 $\frac{3}{2}$ |
| Service pipe in use December 31, 1897..... | 40 miles. | 3,293 |
| Service pipe in use December 31, 1898..... | 41 miles. | 1,628 $\frac{1}{2}$ |

N. B.—In addition, 62 connections were replaced, or altered, in streets to be paved, and others which had given out, as follows:

| WARD. | NUMBER. |
|--|--|
| First..... $\frac{3}{4}$ -inch | 15 |
| Second..... $\left\{ \begin{array}{l} \frac{3}{4} \text{ " } \\ 1 \text{ " } \\ 1\frac{1}{2} \text{ " } \end{array} \right.$ | $\left. \begin{array}{l} 38 \\ 1 \\ 1 \end{array} \right\} 40$ |
| Third..... $\frac{3}{4}$ " | 4 |
| Fourth..... $\frac{3}{4}$ " | 1 |
| Fifth..... $\frac{3}{4}$ " | 1 |
| Sixth..... $\frac{3}{4}$ " | 1 |
| Total..... | 62 |

Statement of Connections made to December 31, 1898.

| WARD. | IN PAVED STREETS. NOT IN USE. | | | | | IN USE. | | | | | | | | | | TOTAL. | | | | | | | | | |
|--------------|----------------------------------|-------|-------|-------|-------|-----------------|-----|-------|-----|----|-------|-------|-----|-------|-------|-----------------|-----|-------|-----|----|-------|-------|-----|-------|-------|
| | | | | | | SIZE IN INCHES. | | | | | | | | | | SIZE IN INCHES. | | | | | | | | | |
| | ¾ | 1 | 1½ | 4 | TOTAL | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 4 | 6 | TOTAL | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 4 | 6 | TOTAL |
| First..... | 104 | ..... | ..... | ..... | 104 | 1351 | 20 | ..... | 10 | 11 | ..... | ..... | 15 | ..... | 1407 | 1455 | 20 | ..... | 10 | 11 | ..... | ..... | 15 | ..... | 1511 |
| Second..... | 236 | 1 | 1 | 1 | 239 | 2071 | 15 | ..... | 26 | 19 | ..... | ..... | 39 | 10 | 2180 | 2307 | 16 | ..... | 27 | 19 | ..... | ..... | 40 | 10 | 2419 |
| Third..... | 386 | 1 | ..... | ..... | 387 | 1856 | 33 | ..... | 22 | 22 | 1 | ..... | 25 | 4 | 1963 | 2242 | 34 | ..... | 22 | 22 | 1 | ..... | 25 | 4 | 2350 |
| Fourth..... | 211 | 1 | ..... | ..... | 212 | 1597 | 28 | 3 | 17 | 26 | ..... | ..... | 13 | ..... | 1654 | 1778 | 29 | 3 | 17 | 26 | ..... | ..... | 13 | ..... | 1866 |
| Fifth..... | 53 | ..... | ..... | ..... | 53 | 1136 | 12 | 1 | 11 | 9 | ..... | ..... | 4 | ..... | 1173 | 1189 | 12 | 1 | 11 | 9 | ..... | ..... | 4 | ..... | 1226 |
| Sixth..... | 70 | 2 | ..... | 3 | 75 | 1264 | 17 | ..... | 9 | 8 | ..... | 1 | 5 | ..... | 1304 | 1334 | 19 | ..... | 9 | 8 | ..... | 1 | 8 | ..... | 1379 |
| Seventh..... | ..... | ..... | ..... | ..... | ..... | 45 | 4 | 1 | 6 | 3 | ..... | 1 | 3 | 1 | 64 | 45 | 4 | 1 | 6 | 3 | ..... | 1 | 3 | 1 | 64 |
| Total..... | 1060 | 5 | 1 | 4 | 1070 | 9290 | 129 | 5 | 101 | 98 | 1 | 2 | 104 | 15 | 9745 | 10350 | 134 | 5 | 102 | 98 | 1 | 2 | 108 | 15 | 10815 |

Total number reported in 1897..... 10,487

Total number made in 1898..... 335

Removed and abandoned in 1898..... 7

Net increase in 1898..... 328

Total number December 31, 1898..... 10,815

COMPARATIVE STATEMENT OF WATER RATES IN TWENTY-SEVEN CITIES IN THE U. S.

| CITY. | | WATER WORKS SYSTEM. | | | | METER. | | | | RATES. | | | | TOTALS |
|----------------------|-------------|----------------------|--|--|--|--------|---------|----------|--|---------|-------|---------------|-------------|---------|
| NAME. | Population. | | | | | Flat. | Lowest. | Highest. | | Family. | Bath. | Water Closet. | Sprinkling. | |
| Albany, N. Y. | 100,000 | Gravity and Pumping. | | | | 8 | ..... | ..... |  | \$18 00 | ..... | \$ 2 00 | ..... | \$20 00 |
| Allegheny, Penna. | 125,000 | Pumping. | | | | 10 | ..... | ..... |  | 16 25 | ..... | 9 00 | \$ 5 50 | 33 75 |
| Boston, Mass. | 520,000 | Gravity and Pumping. |  |  |  | ..... | 10½ | 18½ | | 8 00 | 3 00 | 10 00 | 5 00 | 26 00 |
| Cambridge, Mass. | 87,000 | " |  |  |  | ..... | 10 | 30 | | 8 00 | 4 00 | 5 00 | 5 00 | 22 00 |
| Chicago, Ill. | 1,750,000 | Pumping. |  |  |  | ..... | 8 | 10 | | 14 50 | ..... | 3 00 | 3 00 | 20 50 |
| Cincinnati, Ohio. | 406,000 | " |  |  |  | ..... | 8½ | 20 | | 7 50 | 2 70 | 8 00 | 8 94 | 27 14 |
| Cleveland, Ohio. | 370,000 | " | | | | 5½ | ..... | ..... |  | 6 00 | 2 00 | 4 00 | 1 00 | 13 50 |
| Dayton, Ohio. | 85,000 | " |  |  |  | ..... | 7 | 8 | | 6 00 | 2 00 | 3 50 | 6 64 | 18 14 |
| Des Moines, Iowa. | 68,000 | " |  |  |  | ..... | 10 | 30 | | 6 75 | 3 00 | 5 00 | 7 50 | 22 25 |
| ERIE, PENNA. | 55,000 | " | | | | 6 | ..... | ..... |  | 5 00 | 3 00 | 4 50 | 3 00 | 15 50 |
| Fall River, Mass. | 98,000 | " |  |  |  | ..... | 10 | 28 | | 10 00 | 5 00 | 8 00 | 6 00 | 29 00 |
| Grand Rapids, Mich. | 90,000 | " |  |  |  | ..... | 4½ | 20 | | 6 00 | 3 00 | 5 00 | 11 29 | 25 29 |
| Harrisburg, Penna. | 60,000 | " |  |  |  | ..... | 2½ | 13½ | | 10 50 | 4 00 | 3 00 | 2 00 | 19 50 |
| Indianapolis, Ind. | 169,155 | " |  |  |  | ..... | 6 | 20 | | 9 00 | 3 00 | 5 00 | 7 10 | 24 10 |
| Lancaster, Penna. | 40,000 | " | | | | 5 | ..... | ..... |  | 6 00 | 3 00 | 6 00 | 5 00 | 20 00 |
| Lawrence, Mass. | 54,500 | " |  |  |  | ..... | 8 | 20 | | 5 50 | 3 40 | 4 40 | 3 30 | 16 60 |
| Lowell, Mass. | 90,000 | " |  |  |  | ..... | 13½ | 18½ | | 6 00 | 3 00 | 6 00 | 3 00 | 18 00 |
| Milwaukee, Wis. | 270,000 | " | | | | 6 | ..... | ..... |  | 10 00 | 3 00 | 3 50 | 17 42 | 33 92 |
| Philadelphia, Penna. | 1,300,000 | " | | | | 4 | ..... | ..... |  | 5 00 | 3 00 | 2 00 | 5 00 | 15 00 |
| Pittsburg, Penna. | 300,000 | " |  |  |  | ..... | 8 | 20 | | 13 00 | 1 00 | 6 00 | 8 00 | 28 00 |
| Providence, R. I. | 150,000 | " |  |  |  | ..... | 15 | 20 | | 6 00 | 5 00 | 8 00 | 5 00 | 24 00 |
| Reading, Penna. | 87,735 | Gravity and Pumping. |  |  |  | ..... | 2½ | 50 | | 4 50 | 2 50 | 4 00 | 9 00 | 20 00 |
| Rochester, N. Y. | 170,000 | " |  |  |  | ..... | 10 | 14 | | 5 00 | 2 00 | 3 00 | 4 00 | 14 00 |
| Saginaw, Mich. | 52,000 | Pumping. |  |  |  | ..... | 6 | 11 | | 9 00 | 3 00 | 4 00 | 3 00 | 19 00 |
| Springfield, Mass. | 55,000 | Gravity. |  |  |  | ..... | 7 | 30 | | 8 00 | 4 00 | 6 00 | 5 00 | 23 00 |
| Syracuse, N. Y. | 133,000 | " |  |  |  | ..... | 4½ | 18½ | | 5 00 | 4 00 | 6 00 | 6 00 | 21 00 |
| Worcester, Mass. | 102,000 | " |  |  |  | ..... | 15 | 25 | | 7 00 | 5 00 | 6 00 | 5 00 | 23 00 |

BASIS OF COMPARISON: { Building—Two stories high; 10 rooms; assessed valuation \$1,500.00 to \$3,000.00.

Family—Six persons. Three faucets and three sinks allowed with each family.

Fixtures—One bath; two water closets, and faucet for sprinkling.

Lot—Inside lot; 41½ feet front on a 60-foot street; 165 feet or less in depth.

ERIE, PENNA.—Family, \$5.00. Bath tub, \$3.00; each additional, \$1.50. Water closet, \$3.00; each additional, \$1.50. Sprinkling, 41 feet front or less, \$3.00; each additional foot front, 5 cents.

- ALBANY, N. Y. Two-story dwellings on a lot from 40 feet to 50 feet wide, \$18.00; includes one each bath tub and water closet and sprinkling; each bath and closet above one, \$2.00.
- ALLEGHENY, PENNA.—Six-room house, \$10.25; each additional room, \$1.50. Each bath tub, hot and cold water, \$3.00. Water closets, not less than \$2.00, not more than \$10.00; each additional closet, $\frac{1}{2}$ rates. Street washer, \$1.00 to \$10.00.
- BOSTON, MASS.—Family, every dwelling-house shall be charged, when it is valued for the assessment of taxes at \$300.00 or any sum less, and occupied by one family only, \$5.00; more than \$500.00 and not more than \$1,000.00, \$6.00; and for every additional \$1,000.00 or fractional part thereof, \$1.00, until the valuation for the assessment of taxes shall amount to \$25,000.00. Bath tubs, \$3.00 each. Water closets, each, \$5.00. Sprinkling, \$5.00.
- CAMBRIDGE, MASS.—Family, first faucet, \$4.00; each additional faucet, \$2.00. First water closet, \$5.00; each additional, \$2.00. Sprinkling, less than 5,000 feet, \$5.00.
- CHICAGO, ILL.—Two-story dwelling on a lot from 40 feet to 44 feet wide, \$14.50, which carries with it one each bath tub and water closet; each additional of each, \$3.00. Sprinkling, \$5.00.
- CINCINNATI, OHIO.—Nine to 10-room house, \$7.50. Each bath tub, \$2.70. Each water closet, \$4.00. Sprinkling, 1 cent per square yard.
- CLEVELAND, OHIO.—Dwellings, one, two or three rooms, \$3.00; each additional room, .50c. Bath tubs, each, \$2.00. Water closets, each, \$2.00. Sprinkling, lot 66 feet or less in front, $\frac{1}{4}$ -inch connection, \$1.00.
- DAYTON, OHIO.—Dwellings, six rooms or less, \$4.00; each additional room, .50c. Bath tub, \$2.00; each additional bath tub, \$1.00. Water closet, \$2.50; each additional, \$1.00. Sprinkling, 25 feet front or less, \$5.00; each additional foot front extending back 20 feet or less, .02 cts.; additional square yards on premises, .00 $\frac{1}{2}$ cts.
- DES MOINES, IOWA.—Family—Dwelling, 6 rooms or less, \$4.00; 6 to 9 rooms, each, .75c; over 9, each, .50c. Bath tub, \$5.00 for first one; \$2.00 for each additional. Water closet, for first one, \$3.00; for each additional, \$2.00. Sprinkling, 50 feet front, \$7.50; each additional foot, 10c.
- FALL RIVER, MASS.—Family, first faucet \$5.00; each additional faucet, \$2.50. Bath tub, first one, \$5.00; each additional one, \$4.00. Water closet, first one, \$5.00; each additional one, \$3.00. Sprinkling, where nozzle not exceeding $\frac{1}{2}$ -inch diameter is used, \$6.00.
- GRAND RAPIDS, MICH.—Family, four persons or less, \$4.00; each additional person, \$1.00. Bath tub, four persons or less, one or more tubs, \$2.00; each additional person using same, .50c. Water closets, four persons or less, one or more closets, \$4.00; each additional person using same, .50c.; hopper or non-self-cleaning, double rates. Sprinkling, for each 1,000 square feet watered, \$2.00. (Estimate—lot 415' x 165' and $\frac{1}{2}$ of 64-foot street 544 sq. ft. City buildings value 30' x 80' = 2,400 sq. ft. Chg. for remainder 544 sq. ft.)
- HARTISBURG, PENNA.—Family, first openings, 2-story house on street, \$6.50. Sinks, \$2.00. Bath tubs, \$4.00. Water closets, \$3.00. Sprinkling, \$2.00.
- INDIANAPOLIS, IND.—Family, 3 rooms, \$4.00; 6 rooms or less, \$5.00; each additional room, \$1.00. Bath tub, first one, \$3.00; each additional tub, \$2.00. Water closets, first one, \$3.00; each additional closet, \$2.00. Sprinkling, 30 feet and under, \$6.00; each additional foot over 30 ft., 10c.
- LANCASTER, PENNA.—Family, two-story house, \$6.00. Bath tub, \$3.00 each. Water closet, \$3.00 each. Sprinkling, \$5.00 per season.
- LAWRENCE, MASS.—Family, five persons or less, \$5.00; each additional person, .50c. Bath tub, 5 persons or less, \$3.00; each additional tub, \$1.00 to 12, .40c.; each additional tub, \$2.00. Water closet, 5 persons or less, \$4.00; each additional person, .40c. Sprinkling, under 25 feet front, \$2.50; each additional foot up to 70 feet, .05c.
- LOWELL, MASS.—Family, six persons, \$5.00; each additional person, .50c. Bath tub, each person residing in house, .50c, but no charge less than \$3.00. Water closets, each person residing in house, .50c, —nothing less than \$1.00; each additional closet, \$2.00. Sprinkling, \$3.00.
- MILWAUKEE, WIS.—Family, five or six rooms, \$6.00; each additional room, \$1.00. Bath tubs, each, \$3.00. Water closets, first one \$2.00; each additional one, \$1.25. Sprinkling—for sprinkling sidewalks and half streets only, for 25 feet front or less, \$4.00; for each additional foot, 15c. Lawns or gardens, from May 1 to Nov. 1 only, and not to exceed three (3) hours each day, for each 1,000 square feet or less, \$2.50. No lawn sprinkler or street washer shall be charged separately without charging for all buildings and fixtures on said premises. (Street washer in this case won't be \$6.40; lot would be for 6,500 sq. ft. less buildings 2,400 sq. ft., remainder 4,100 sq. ft. at \$2.50 per 1,000 sq. ft.—\$11.02.)
- PHILADELPHIA, PENNA.—Family, \$5.00. Bath tubs, each, \$3.00. Water closets, each, \$1.00. Sprinkling, \$5.00.
- PITTSBURG, PENNA.—Family, one room, \$2; each additional room, \$1. Sinks, each, \$1.00. Bath tubs, each, \$1.00. Water closets, each, self-closing, each, \$3.00. Sprinkling, wash pan, \$3.00; lawn sprinkling, \$5.00.
- PROVIDENCE, R. I.—Family, \$6.00. Bath tub, first tub, \$5.00; each additional, \$3.00. Water closets, first closet, \$5.00; each additional, \$3.00. Sprinkling, season, \$5.00.
- READING, PENNA.—Family, \$4.50. Bath tub, first tub, \$2.50; each additional, \$2.00. Water closets, each, \$2.00. Sprinkling—permission to sprinkle streets, \$4.00; lawn sprinklers (April to October), each, \$5.00.
- ROCHESTER, N. Y.—Family, assessed valuation \$1,500.00 to \$3,000.00, \$3.00. Bath tub, first tub, \$2.00; each additional tub, \$1.00. Water closets, first closet, \$2.00; each additional closet, \$1.00. Sprinkling, 50 feet frontage or less, \$4.00; each additional foot front up to 100 feet, .8c.; each additional foot front over 100 feet, .5c.; hose attachment over two, each, \$2.00.
- SACONNA, MICH.—Family, 6 persons, 8 rooms, \$8; 7 or 8 persons, 10 rooms, \$9. Bath tubs, 4 persons or less, \$2; each additional person, .50c. Water closets, 6 persons or less, \$3.00; each additional person, .50c.; each additional closet, \$1.00. Sprinkling, each lot 60' x 120 feet or less, \$3.00.
- SPRINGFIELD, MASS.—Family, \$8.00. Bath tubs, \$4.00; each additional tub, \$2. Water closet, \$4; each additional closet, \$2. Sprinkling, \$5, where water is used by family; when it is not used by family, \$8.
- SYRACUSE, N. Y.—Family, \$5.00. Bath tub, one or two tubs for family use, \$4.00. Water closets, \$5.00; for each additional closet, \$1.00. Sprinkling, accompanied by inside use, \$6.00; when unaccompanied by inside use for domestic purposes, \$10.00.
- WORCESTER, MASS.—Family, 6 persons or less, \$6.00; not over 10 persons, \$8.00; all sinks more than two, each, \$1.00. Bath tubs, first tub, \$5.00; each additional tub, \$2.00. Water closets, first closet, \$4.00; each additional closet, \$2.00. Sprinkling, 5,000 square feet or less, \$5.00.

Statement of Meters December 31, 1898.

| KIND. | IN USE. | | | | | | | Total | NOT IN USE. | | | | | | | Total | TOTAL. | | | | | | | | | |
|----------------------|-----------------|-----|----|-------|----|----|----|-------|-----------------|-----|---|-------|---|---|---|-------|-----------------|-----|---|-------|---|---|---|---|--------|-----|
| | Size in Inches. | | | | | | | | Size in Inches. | | | | | | | | Size in Inches. | | | | | | | | | |
| | 5/8 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 5/8 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 5/8 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | Total. | |
| Columbia..... | | | | | | | | 1 | | | | | | | | | | | | | | | | | 1 | |
| Crown..... | | | | | | | | 20 | | | | | | | | | | | | | | | | | 20 | |
| Empire..... | | | | | | | | 5 | | | | | | | | | | | | | | | | | 5 | |
| Gem..... | | | | | | | | 3 | | | | | | | | | | | | | | | | | 3 | |
| National..... | | | | | | | | 1 | | | | | | | | | | | | | | | | | 1 | |
| Pittsburgh Disc..... | | | | | | | | 2 | | | | | | | | | | | | | | | | | 2 | |
| Thomson..... | | | | | | | | 25 | | | | | | | | | | | | | | | | | 25 | |
| Union..... | | | | | | | | 126 | | | | | | | | | | | | | | | | | 135 | |
| Worthington..... | | | | | | | | 16 | | | | | | | | | | | | | | | | | 20 | |
| Total..... | 10 | 76 | 25 | 24 | 39 | 10 | 14 | 1 | 199 | 2 | 2 | 8 | 2 | | | 2 | | | | | | | | | 1 | 215 |

| KIND. | GOOD. | | | | | | | | | POOR. | | | | | | | | | TOTAL. | | | | | | | | |
|----------------------|-----------------|-----|----|-------|----|---|----|---|--------|-----------------|-----|---|-------|---|---|---|---|--------|-----------------|-----|----|-------|----|----|---|----|--------|
| | Size in Inches. | | | | | | | | | Size in Inches. | | | | | | | | | Size in Inches. | | | | | | | | |
| | 5/8 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | Total. | 5/8 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | Total. | 5/8 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | Total. |
| Columbia..... | 1 | | | | | | | | 1 | | | | | | | | | | | 1 | | | | | | | 1 |
| Crown..... | 1 | 5 | 2 | 1 | 8 | 1 | 2 | | 20 | | | | | | | | | | | 1 | 5 | 2 | 1 | 8 | 1 | 2 | 20 |
| Empire..... | | | 2 | | 3 | | | | 5 | | | | | | | | | | | | | | | | | | 5 |
| Gem..... | | | | | 3 | | | | 1 | | | | | | | | | | | | | | | | | | 3 |
| National..... | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 1 |
| Pittsburgh—Disc..... | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| Thomson..... | 3 | 6 | 4 | 4 | 5 | 1 | 4 | | 27 | | | | | | | | | | | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 |
| Union..... | 6 | 63 | 14 | 15 | 19 | 7 | 10 | 1 | 135 | | | | | | | | | | | 6 | 63 | 14 | 15 | 19 | 7 | 10 | 135 |



XXXIII

ANNUAL REPORT

OF THE

COMMISSIONERS OF

WATER WORKS,

IN THE CITY OF ERIE,

TO THE

COUNCILS,

FOR THE

YEAR ENDING DECEMBER 31, 1899.





XXXIII
ANNUAL REPORT
OF THE
COMMISSIONERS OF
WATER WORKS,
IN THE CITY OF ERIE,
TO THE
COUNCILS,
FOR THE
YEAR ENDING DECEMBER 31, 1899.



ERIE, PA.,
TIMES PUBLISHING COMPANY
1900.



PUMPNG STATION AS SEEN FROM THE BAY.

**Commissioners of Water Works,
In the City of Erie,
ERIE, PA.**

**WILLIAM HARDWICK.
T. W. SHACKLETT.
CLARK OLDS.**

OFFICERS.

CLARK OLDS,
President.

WILLIAM HIMROD,
Secretary and Treasurer.

GEO. C. GENSHEIMER,
Assistant Secretary.

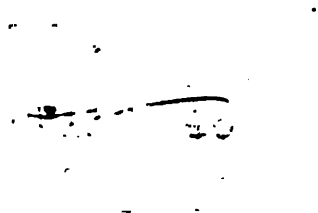
F. A. ROTH,
Chief Engineer at Pumping Station.

R. T. WALKER,
Superintendent of Street Work.

OFFICE, CITY HALL.

OFFICE HOURS. From 8:00 a. m. to 5:00 p. m.; on Mondays to 9:00 p. m.

REGULAR MEETINGS OF THE COMMISSIONERS. Every Saturday at 4:00 p. m., and the first of each month at 11 a. m., except when it occurs on Sunday, then they meet the following day. Special meetings when necessary.



ANNUAL REPORT.

To the Councils of the City of Erie, Pa.:

GENTLEMEN:—

We herewith submit the thirty-third annual report of this department for the year ending December 31, 1899:

RECEIPTS.

| | | | |
|---|----|---------|-------|
| Balance in City Treasury Dec. 31, 1898, | \$ | 37 | 54 |
| From Water Rents: | | | |
| Assessments | \$ | 104,109 | 28 |
| Meters | | 34,441 | 09 |
| Building Permits | | 646 | 92 |
| Special Permits | | 146 | 73 |
| | | | <hr/> |
| | | 139,344 | 02 |
| From other sources | | 496 | 21 |
| | | | <hr/> |
| Total . | | 139,877 | 77 |

DISBURSEMENTS.

| | | | |
|--|----|---------|-------|
| Construction | \$ | 93,337 | 92 |
| Maintenance | | 15,557 | 17 |
| Operating | | 21,773 | 33 |
| Accounting | | 8,361 | 80 |
| Legal | | 183 | 33 |
| | | | <hr/> |
| | | 139,213 | 55 |
| Balance in City Treasury Dec. 31, 1899.... | | 664 | 22 |
| | | | <hr/> |
| Total | \$ | 139,877 | 77 |

The accounts of this department have not been audited for the period of three years and we reiterate our request that this important duty be performed, at least, once annually.

The increase in the receipts over the previous year, as shown by the books, amounts to the sum of \$7,284.98.

The condition of the department is such, that the Commissioners felt justified in recommending a reduction of the water rates to your Honorable Bodies.

In accordance with such recommendations the meter rate of six cents per thousand gallons was repealed and a rule adopted to take effect July 1, 1899, fixing the rate at twenty cents per thousand gallons for the first twenty-five thousand gallons of water and four cents per thousand gallons thereafter.

The rate for schools, churches, parsonages, parish houses, hospitals and other charitable institutions was fixed at one-third of the regular rate.

The rate for all water takers outside the city limits was reduced from fifty per centum to twenty-five per centum above the regular rate.

These changes in the water rates reduced the revenues of the department for the half year ending December 31, 1899, to the amount of \$4,832.41, which will be rebated out of the earnings for 1900.

The family rate was changed from five to four dollars per annum to take effect January 1, 1900. There are at present 10,249 families paying the family rate. This change will reduce the revenues of the department for the year 1900 to the amount \$10,249.00.

The meter rate as now established is intended to apply to all water takers.

In the near future we intend to recommend a reduction of the minimum meter rates and a change in the rules, to allow all water takers, who desire, to take water by meter measurement.

The amount of water pumped was 2,722,322,604 gallons, an increase of 451,802,076 gallons over the year 1898, a daily average pumpage of 7,458,418 gallons.

This is a daily per capita pumpage of nearly 125 gallons for a city of 60 000 inhabitants.

The liberal introduction of meters will probably reduce the revenues, but their introduction will curtail the waste of water. We hope the department will save in the cost of pumpage more than it will lose in revenues.

The total length of the water mains are a little over 103 1-2 miles.

During the year 1899 we laid almost three miles of new mains, took up about one mile of four and six inch mains and re-laid larger mains in their places.

The twenty-four inch main in Cherry Street was extended from Nineteenth to Twenty-sixth Streets.

At the Pumping Station we installed an 8,000,000 gallon Worthington High Duty pumping engine.

This pump was completed, tested and started in actual service on the 1st day of August, 1899, by its use we give to all that portion of the city lying south of Nineteenth Street the same average pressure of water as is had in the balance of the city.

It was our intention to construct a standpipe in connection with the high system and we installed temporarily a system of check and relief valves between the two systems, the operation of which has been so satisfactory that the construction of the standpipe may be indefinitely postponed.

It is our desire to give to the whole city an adequate supply of water with a uniform pressure. In order to accomplish this end we are extending the large mains so as to belt districts. This work is so far advanced that we believe we are able to supply all extraordinary demands for water that may be made, in every part of the city.

It is our intention to pay to the sinking fund commissioners the sum of \$25,000.00 out of the revenues of the department for the year 1900.

The most important question which confronts this department, at present, is the gradual pollution of the bay by the sewage from the city.

Slowly but surely the source of supply is being polluted, which affects the health of the whole city. It is a question of vital importance to every citizen.

In each annual report for the past 19 years this department has called the attention of your Honorable bodies to the necessity of changing the mouth of Mill Creek or the construction of an intercepting sewer.

We believe it is the duty of the city to take care of its sewage and earnestly hope some plan will be devised to separate the

sewage from the waters of Mill Creek and save the bay from further pollution.

The Act of Assembly creating this department imposes upon the Commissioners the duty of providing "a full supply of pure and wholesome water."

Under present conditions this will soon be impossible, without the extension of the intake pipe into the open lake or the installation of a filter plant, either of which will require the expenditure of a large amount of money.

The law imposes upon the Commissioners the duty of furnishing "pure and wholesome water." It would seem, therefore, that anything which tended to improve the quality of the water supply would be within the scope of their authority, and we suggest to your Honorable bodies that we will be glad to co-operate with you in devising and completing a plan for separating the city sewage from the waters of Mill Creek or for turning the creek into the open lake, and thereby divert from the bay this great volume of polluted water, which is a menace to the health of the city.

Respectfully submitted,

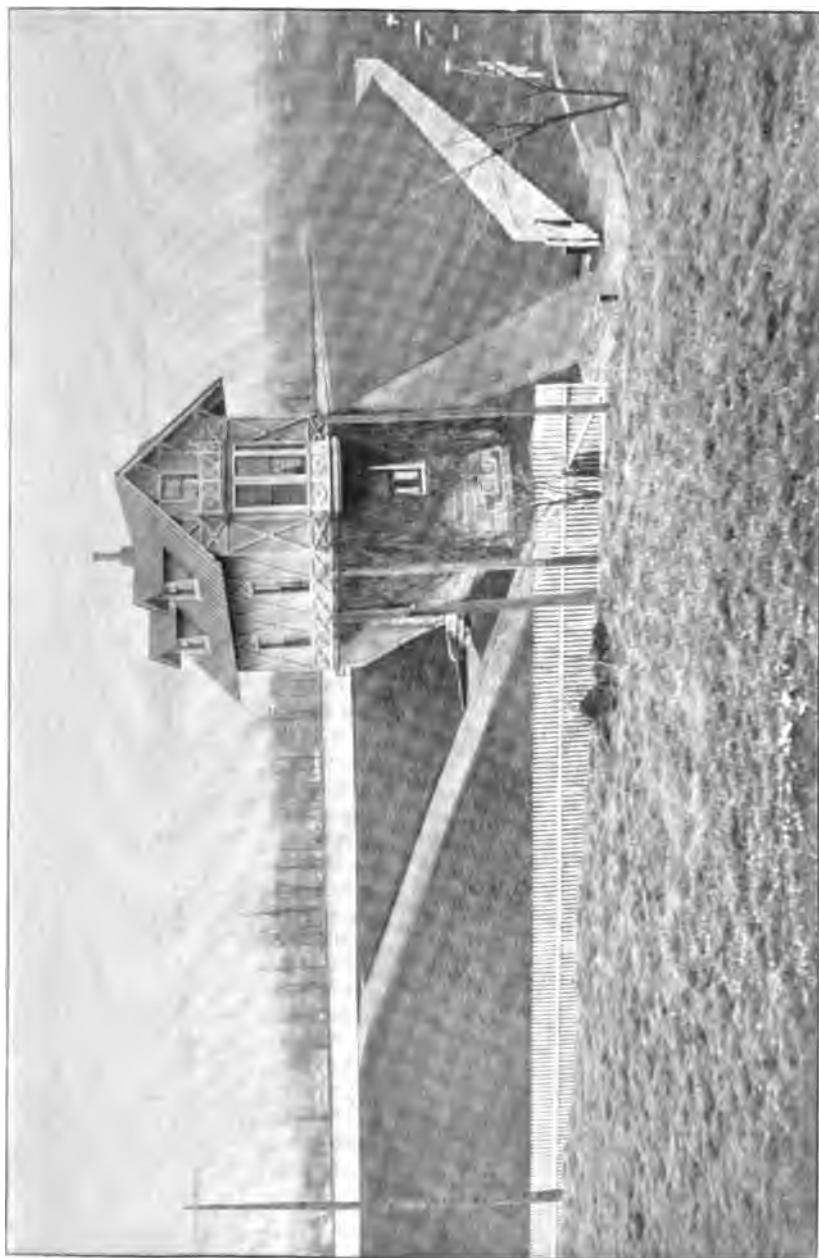
CLARK OLDS,

WM. HARDWICK,

T. W. SHACKLETT,

Commissioners.





RESERVOIR.

Commissioners of Water Works, in the City of Erie from Organization to December 31, 1899.

The Commissioners of Water Works, in the City of Erie, are appointed by the Court of Common Pleas of Erie County, Penna., for a term of three years, one member being named annually, in May.

| | | | |
|------|-------------------|-------------------|--------------------|
| 1867 | *W. L. Scott, | *Henry Rawle, | Wm. W. Reed. |
| 1868 | *John C. Selden, | *Henry Rawle, | Wm. W. Reed. |
| 1869 | *John C. Selden, | *Henry Rawle, | Wm. W. Reed. |
| 1870 | *John C. Selden, | *Henry Rawle, | Wm. W. Reed. |
| 1871 | *†John C. Selden, | *Henry Rawle, | Wm. W. Reed. |
| 1872 | Matthew R. Barr, | John Genshelmer, | Wm. W. Reed. |
| 1873 | Matthew R. Barr, | John Genshelmer, | Wm. W. Reed. |
| 1874 | Matthew R. Barr, | John Genshelmer, | Wm. W. Reed. |
| 1875 | Matthew R. Barr, | John Genshelmer, | Wm. W. Reed. |
| 1876 | Matthew R. Barr, | John Genshelmer, | Wm. W. Reed. |
| 1877 | Michael Liebel, | John Genshelmer, | Wm. W. Reed. |
| 1878 | Michael Liebel, | *J. M. Bryant, | Wm. W. Reed. |
| 1879 | Michael Liebel, | *J. M. Bryant, | *G. W. F. Sherwin. |
| 1880 | Michael Liebel, | *J. M. Bryant, | *G. W. F. Sherwin. |
| 1881 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1882 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1883 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1884 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1885 | Michael Liebel, | Benjamin Whitman, | Geo. W. Starr. |
| 1886 | C. Kessler, | Benjamin Whitman, | Geo. W. Starr. |
| 1887 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1888 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1889 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1890 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1891 | C. Kessler, | C. J. Brown, | Wm. Hardwick. |
| 1892 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |
| 1893 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |
| 1894 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |
| 1895 | T. W. Shacklett, | †C. J. Brown, | Wm. Hardwick. |
| 1896 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |
| 1897 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |
| 1898 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |
| 1899 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |

*Dead.

†Mr. Selden resigned before the expiration of his second term; Mr. Barr was substituted by the other Commissioners, and afterward appointed by the Court.

‡C. J. Brown resigned December 28, 1895, having been elected Treasurer of Erie County, Penna. Clark Olds was chosen by the other Commissioners, for the unexpired term, on recommendation of the Court, January 2, 1896.

**Officers of Water Works, from Organization to
December 31, 1899.**

| | President. | Secretary & Treasurer. | Assistant Secretary |
|------|--------------------|------------------------|---------------------|
| 1867 | Wm. W. Reed, | *Wm. Brewster, | ..... |
| 1868 | Wm. W. Reed, | *Wm. Brewster, | ..... |
| 1869 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1870 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1871 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1872 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1873 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1874 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1875 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1876 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1877 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1878 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1879 | Michael Liebel, | B. F. Sloan, | ..... |
| 1880 | Michael Liebel, | B. F. Sloan, | ..... |
| 1881 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1882 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1883 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1884 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1885 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1886 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1887 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1888 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1889 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1890 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1891 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1892 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1893 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1894 | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1895 | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1896 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1897 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1898 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1899 | Clark Olds, | Wm. Himrod, | Geo. C. Gensheimer. |

*Dead.

NOTE.—Mr. Brewster was elected June 14, 1867; resigned October 26, 1868, to take effect November 2, 1868; served 1 year, 4 months and 13 days. Mr. Perkins was elected October 26, 1868, to take effect November 2, 1868; resigned March 30, 1878; same accepted December 21, 1878, to take effect January 1, 1879; served 10 years, 1 month and 29 days. Mr. Sloan was elected December 21, 1878, to take effect January 1, 1879; continued in office to June 1, 1891; served 12 years and 5 months. Mr. Himrod was appointed Secretary May 23, 1891, to take effect June 1, 1891. Mr. Gensheimer was appointed Assistant Secretary January 26, 1884.

**Monthly Receipts from all Sources during the Year
Ending December 31, 1899.**

| Month. | Assessment | Meter. | Special. | Plumbing. | Building. | Total. |
|-------------------|---------------------|--------------------|------------------|------------------|------------------|---------------------|
| January.... | \$ 23,455 46 | \$7,414 28 | \$ 6 75 | \$ 1 78 | \$ 19 10 | \$ 30,896 97 |
| February... | 1,961 39 | 242 37 | 4 58 | 27 86 | 18 90 | 2,255 10 |
| March | 194 14 | 3 75 | 14 10 | 9 63 | 38 42 | 260 04 |
| April | 23,017 51 | 6,834 98 | 3 75 | 31 02 | 36 34 | 29,923 60 |
| May | 2,055 52 | 156 43 | 19 17 | 76 85 | 122 70 | 2,430 67 |
| June..... | 520 06 | 673 01 | 13 45 | 8 84 | 27 75 | 1,243 11 |
| July..... | 24,165 34 | 7,539 76 | 22 92 | 81 | 11 98 | 31,740 81 |
| August | 2,081 53 | 178 71 | 36 18 | 56 36 | 130 52 | 2,483 30 |
| September.. | 311 92 | 44 31 | 3 51 | ..... | 85 04 | 444 78 |
| October.... | 24,219 61 | 8,253 02 | 13 00 | 67 32 | 107 89 | 32,660 84 |
| November.. | 2,025 65 | 728 50 | 9 32 | 64 44 | 37 32 | 2,865 23 |
| December.. | 101 15 | 2,371 97 | ..... | 151 76 | 10 96 | 2,635 78 |
| Total | \$104,109 28 | \$34,441 09 | \$ 146 73 | \$ 496 21 | \$ 646 92 | \$139,840 23 |

**Receipts from each Ward during the Year Ending
December 31, 1899.**

| Ward. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|-------------------|---------------------|------------------|------------------|------------------|------------------|---------------------|
| First..... | \$ 14,013 18 | \$3,108 83 | \$ 19 16 | \$ 77 05 | \$ 164 18 | \$ 17,382 40 |
| Second..... | 22,665 00 | 17,503 25 | 31 00 | 87 52 | 160 14 | 40,446 91 |
| Third..... | 24,866 28 | 5,498 61 | 19 75 | 230 89 | 104 82 | 30,720 35 |
| Fourth.... | 19,889 59 | 1,203 38 | 17 93 | 30 65 | 54 13 | 21,195 68 |
| Fifth..... | 10,000 64 | 5,328 02 | 35 59 | 1 00 | 94 93 | 15,460 18 |
| Sixth..... | 11,874 55 | 1,168 02 | 1 67 | 4 21 | 36 48 | 13,084 93 |
| *Seventh... | 800 04 | 630 98 | 21 63 | 64 89 | 32 24 | 1,549 78 |
| Total | \$104,109 28 | 34,441 09 | \$ 146 73 | \$ 496 21 | \$ 646 92 | \$138,840 23 |

*Account outside of City Limits.

Cash Account of Secretary and Treasurer of Commissioners of Water Works, in the City of Erie, for the Year Ending December 31, 1899.

| Month. | Receipts. | Deposited with Treasurer City of Erie. | Balance in Office at Close of Business each month. |
|--------------------|----------------------|--|--|
| January | \$ 30,896 97 | \$ 25,984 41 | \$ 4,912 56 |
| February | 2,255 10 | 6,500 25 | 667 41 |
| March | 260 04 | 339 55 | 587 90 |
| April | 29,923 60 | 23,670 16 | 6,841 34 |
| May | 2,430 67 | 9,105 44 | 166 57 |
| June | 1,243 11 | 1,318 62 | 91 06 |
| July | 31,740 81 | 26,926 31 | 4,905 56 |
| August | 2,483 30 | 7,328 22 | 60 64 |
| September | 444 78 | 390 77 | 114 65 |
| October | 32,660 84 | 28,226 37 | 4,549 12 |
| November | 2,865 23 | 6,749 17 | 665 18 |
| December | 2,635 78 | 3,300 96 | ..... |
| Total | \$ 139,840 23 | \$ 139,840 23 | ..... |

Statement of Account with Treasurer of the City of Erie for the Year Ending December 31, 1899.

| Month. | Received from Sec'y and Treas Commissioners of Water Works, in the City of Erie. | Paid on Warrants of Commissioners of Water Works, in the City of Erie | Monthly Balances. |
|------------------------|--|---|-------------------|
| Balance From 1898..... | \$ 37 54 | ..... | ..... |
| January | 25,984 41 | 18,158 92 | \$ 7,863 03 |
| February | 6,500 25 | 10,017 50 | 4,345 78 |
| March | 339 55 | 1,996 90 | 2,688 43 |
| April | 23,670 16 | 12,237 78 | 14,120 81 |
| May | 9,105 44 | 6,174 12 | 17,052 13 |
| June | 1,318 62 | 7,287 47 | 11,083 28 |
| July | 26,926 31 | 7,384 54 | 30,625 05 |
| August | 7,328 22 | 22,078 75 | 15,874 52 |
| September | 390 77 | 12,075 42 | 4,189 87 |
| October | 28,226 37 | 15,690 54 | 16,725 70 |
| November | 6,749 17 | 6,382 07 | 17,092 80 |
| December | 3,300 96 | 19,729 54 | 664 22 |
| Total | \$ 139,877 77 | \$ 139,213 55 | \$ 664 22 |

**Amount Collected Annually for Water Furnished,
showing Total Collections also the Increase
and Decrease each Year since the Com-
mencement of the Water Works.**

| Year Ending Dec. 31st. | RECEIVED. | | ANNUAL. | |
|---------------------------|-------------|--------------|-------------|------------|
| | Annually. | Totals. | Increase. | Decrease. |
| 1869..... | \$ 4,264 47 | ..... | ..... | ..... |
| 1870..... | 9,237 30 | \$ 13,501 77 | \$ 4,972 83 | ..... |
| 1871..... | 18,138 08 | 31,639 85 | 8,900 78 | ..... |
| 1872..... | 21,652 68 | 53,292 53 | 3,514 60 | ..... |
| 1873..... | 25,560 40 | 78,852 93 | 3,907 72 | ..... |
| 1874..... | 27,938 90 | 106,791 83 | 2,378 50 | ..... |
| 1875..... | 29,639 38 | 136,431 21 | 1,700 48 | ..... |
| 1876..... | 31,048 76 | 167,479 97 | 1,409 38 | ..... |
| 1877..... | 32,276 57 | 199,756 54 | 1,227 81 | ..... |
| 1878..... | 29,636 01 | 229,392 55 | ..... | \$2,640 56 |
| 1879..... | 33,343 20 | 262,735 75 | 3,707 19 | ..... |
| 1880..... | 37,385 00 | 300,120 75 | 4,041 80 | ..... |
| 1881..... | 40,395 87 | 340,506 62 | 3,000 87 | ..... |
| 1882..... | 43,818 73 | 384,325 35 | 3,432 86 | ..... |
| 1883..... | 48,269 89 | 432,595 24 | 4,451 16 | ..... |
| 1884..... | 51,852 78 | 484,448 02 | 3,582 89 | ..... |
| 1885..... | 53,550 35 | 537,998 37 | 1,697 57 | ..... |
| 1886..... | 58,725 00 | 596,723 37 | 5,174 65 | ..... |
| 1887..... | 67,121 92 | 663,845 29 | 8,396 92 | ..... |
| 1888..... | 73,197 03 | 737,042 32 | 6,075 11 | ..... |
| 1889..... | 81,110 68 | 818,153 00 | 7,913 65 | ..... |
| 1890..... | 87,279 96 | 905,432 96 | 6,169 28 | ..... |
| 1891..... | 93,891 55 | 999,324 51 | 6,611 59 | ..... |
| 1892..... | 105,527 03 | 1,104,851 54 | 11,635 48 | ..... |
| 1893..... | 111,247 43 | 1,216,098 97 | 5,720 40 | ..... |
| 1894..... | 111,821 94 | 1,327,920 91 | 574 51* |* |
| 1895..... | 116,927 63 | 1,444,848 54 | 5,105 69 | ..... |
| 1896..... | 121,442 94 | 1,566,291 48 | 4,515 31 | ..... |
| 1897..... | 124,106 61 | 1,690,398 09 | 2,663 67 | ..... |
| 1898..... | 131,303 48 | 1,821,701 57 | 7,196 87 | ..... |
| 1899..... | 139,344 02 | 1,961,054 59 | 8,040 54 | ..... |

*Meter rates for water changed from a sliding scale of 6 cents to 10 cents per 1,000 gallons, according to amount consumed, to a flat rate of 6 cents per 1,000 gallons, causing a reduction in receipts of \$5,000.00.

STATEMENT OF WARRANTS ISSUED IN 1899.**JANUARY.****TO PAY VOUCHER.**

| Date. No. | Of | For | Amount. |
|---------------|---|-----|-------------|
| 7 9517 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | Sundries.. . . . | | \$ 12 07 |
| 9518 | Pay Roll Street Work. | | |
| | Disbursed by M. L. Whitley, Clerk.. . . . | | 235 41 |
| 14 9519 | Jos. H. King & Co., | | |
| | Teaming.. . . . | | 4 99 |
| 9520 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | Sundries.... . | | 7 56 |
| 9521 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.... . | | 210 82 |
| 9522 | Mayer Bros., | | |
| | Repairing Pavements.. . . . | | 2,177 83 |
| 17 9523 | Lake Shore Foundry, | | |
| | Pipe.. . . . | | 5,854 38 |
| 21 9524 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. . . . | | 256 43 |
| 28 9525 | W. De Witt Himrod, | | |
| | Stationery.. . . . | | 30 95 |
| 9526 | Globe Iron Foundry Co., | | |
| | Castings.. . . . | | 121 70 |
| 9527 | F. P. Gill, | | |
| | Patterns.. . . . | | 125 20 |
| 9528 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. . . . | | 167 35 |
| 9529 | F. A. Mizener, | | |
| | Coal.. . . . | | 167 37 |
| 9530 | Lake Shore Foundry, | | |
| | Pipe.. . . . | | 8,786 86 |
| Total.. . . . | | | \$18,158 92 |

FEBRUARY.**TO PAY VOUCHER.**

| Date. No. | Of | For | Amount. |
|-----------|---|-----|---------|
| 1 9531 | Pay Roll, Pumping Station, | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | | 710 00 |
| 9532 | Pay Roll, Office and Inspectors, | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | | 866 66 |
| 4 9533 | Mehl & Sapper, | | |
| | Hardware and Tools.. . . . | | 1 80 |
| 9534 | The Atlantic Refining Company, Eclipse Station, | | |
| | Oil.. . . . | | 2 00 |
| 9535 | Hollands Mfg. Co., | | |
| | Tools.. . . . | | 3 10 |
| 9536 | The Flickinger Roofing & Cornice Co., Ltd., | | |
| | Tools.. . . . | | 3 56 |

REPORT OF THE COMMISSIONERS OF

FEBRUARY, Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|---|--|---------|
| 4 | 9537 | A. V. Fox, | | |
| | | | Horse Shoeing.. | \$ 4 00 |
| | 9538 | Erie Window Glass Co., | | |
| | | | Paint.. | 4 50 |
| | 9539 | Keystone Electric Company, | | |
| | | | Carbon Brushes..... | 4 80 |
| | 9540 | Herald Printing & Publishing Co., | | |
| | | | Advertising..... | 5 00 |
| | 9541 | Held, Gorenflo & Co., | | |
| | | | Advertising.. | 5 00 |
| | 9542 | The Dispatch Publishing Company, | | |
| | | | One Year's Subscription.. | 6 00 |
| | 9543 | A. S. Pinney, | | |
| | | | Hardware & Tools.. | 6 43 |
| | 9544 | Brown & Thomas, | | |
| | | | Iron Rail and Beam.. | 6 68 |
| | 9545 | C. Kessler | | |
| | | | Manilla and Soap.. | 7 06 |
| | 9546 | The Atlantic Refining Company, Eclipse Station, | | |
| | | | Oil.. | 8 90 |
| | 9547 | The Dispatch Publishing Company, | | |
| | | | Advertising.. | 9 60 |
| | 9548 | Globe Iron Foundry Co., | | |
| | | | Castings.. | 10 45 |
| | 9549 | Franklin Coal Co., | | |
| | | | Coal.. | 11 00 |
| | 9550 | G. J. Gebhardt, | | |
| | | | Coal and Wood.. | 11 75 |
| | 9551 | O. C. Thayer & Son, | | |
| | | | Cement.. | 13 35 |
| | 9552 | Wm. Schade, | | |
| | | | Blacksmithing and Tools.. | 13 41 |
| | 9553 | J. M. Dunn, | | |
| | | | Brick.. | 13 65 |
| | 9554 | David Schlosser, | | |
| | | | Lumber.. | 15 67 |
| | 9555 | Constable Bros., | | |
| | | | Labor and Material on Buildings.. | 17 09 |
| | 9556 | Hays Manufacturing Co., | | |
| | | | Fittings and Pipe.. | 18 23 |
| | 9557 | E. J. Riblet, | | |
| | | | Shop Rent.. | 20 00 |
| | 9558 | Herald Printing & Publishing Co., | | |
| | | | Binding and Indexing Books.. | 20 00 |
| | 9559 | The Holly Manufacturing Company, | | |
| | | | Valve Rubbers and Cages.. | 40 00 |
| | 9560 | Erie Oil Works, | | |
| | | | Oil.. | 87 36 |
| | 9561 | Erie Mfg. & Supply Co., | | |
| | | | Boiler Compound, Waste, Packing, etc.... | 94 02 |
| | 9562 | The Atlantic Refining Company, Eclipse Station, | | |
| | | | Oil.. | 94 68 |
| | 9563 | Pay Roll, Street Work, | | |
| | | | Disbursed by M. L. Whitley, Clerk.. | 126 30 |

FEBRUARY, Continued.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|-----------|--|-------|-------------|
| 4 9564 | F. A. Mizener, | | |
| | Coal.. | .. \$ | 535 86 |
| 9565 | Geo. C. Genshelmer, Ass't Sec'y, | | |
| | Sundries.. | .. | 18 20 |
| 9566 | Isador Sobel, Postmaster, | | |
| | Postal Cards.. | .. | 100 00 |
| 11 9567 | Geo. C. Genshelmer, Ass't Sec'y, | | |
| | Sundries.. | .. | 13 66 |
| 9568 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. | .. | 125 25 |
| 13 9569 | Geo. C. Genshelmer, Ass't Secy., | | |
| | Sundries.. | .. | 9 25 |
| 9570 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk, .. | .. | 158 70 |
| 25 9571 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. | .. | 339 76 |
| 25 9572 | Erie Window Glass Co., | | |
| | Brushes and Varnish.. | .. | 3 05 |
| 9573 | Frank Senger, | | |
| | Gutter Stone.. | .. | 4 80 |
| 9574 | Union Water Meter Company, | | |
| | Repairing Meter.. | .. | 5 75 |
| 9575 | A. V. Fox, | | |
| | Horse Shoeing.. | .. | 7 20 |
| 9576 | Franklin Coal Co., | | |
| | Coal and Wood.. | .. | 7 50 |
| 9577 | Wm. Schade, | | |
| | Blacksmithing and Tools.. | .. | 8 45 |
| 9578 | E. J. Riblet, | | |
| | Shop Rent.. | .. | 20 00 |
| 9579 | Union Water Meter Company, | | |
| | Repairing Meters.. | .. | 41 50 |
| 9580 | R. D. Wood & Co., | | |
| | Eddy Valves.. | .. | 59 00 |
| 9581 | Erie Mfg. & Supply Co., | | |
| | Boiler Compound, Grease, Packing, etc.,.. | .. | 86 69 |
| 9582 | T. W. Shacklett, | | |
| | Services as Commissioner.. | .. | 150 00 |
| 9583 | William Hardwick, | | |
| | Services as Commissioner.. | .. | 150 00 |
| 9584 | Clark Olds, | | |
| | Services as Commissioner.. | .. | 150 00 |
| 9585 | Pay Roll, Pumping Station, | | |
| | Disbursed by Geo. C. Genshelmer, Ass't Sec'y.. | .. | 710 00 |
| 9586 | Pay Roll, Office and Inspectors, | | |
| | Disbursed by Geo. C. Genshelmer, Ass't Sec'y.. | .. | 866 66 |
| 9587 | Lake Shore Foundry, | | |
| | Pipe and Specials.. | .. | 4,184 17 |
| Total.. | | | \$10,017 50 |

MARCH**TO PAY VOUCHER.**

| Date. No. | Of | For | Amount. |
|---------------|--|---|-------------|
| 4 9588 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries.. | \$ 7 36 |
| 9589 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. . . . | 237 55 |
| 11 9590 | A. V. Fox | Repairing Boiler Cart and Horse Shoeing.... | 4 10 |
| 9591 | Conrad J. Brown, | Hay.... | 15 42 |
| 9592 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries | 18 04 |
| 9593 | Dispatch Printing & Engraving Company Ltd., | Printing and Stationery.. . . . | 22 50 |
| 9594 | Jos. H. King & Co., | Teaming.... . . . | 39 31 |
| 9595 | F. A. Mizener, | Coal | 123 73 |
| 9596 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. . . . | 175 47 |
| 18 9597 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries.. . . . | 9 96 |
| 9598 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk | 233 22 |
| 9599 | W. P. Mason, | Analysis of Water for 1898.. . . . | 440 00 |
| 25 9600 | A. S. Pinney, | Hardware and Tools.. . . . | 3 54 |
| 9601 | New York & Pennsylvania Telephone & Telegraph Co., | Rental of Telephone.. . . . | 6 00 |
| 9602 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries.. . . . | 11 00 |
| 9603 | A. S. Pinney, | Hardware and Tools.. . . . | 16 08 |
| 9604 | Patrick Doyle, | Earth.. . . . | 36 00 |
| 9605 | Mutual Telephone Company, | Rental of Telephones.. . . . | 36 00 |
| 9606 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. . . . | 195 32 |
| 9607 | Herald Printing & Publishing Co., | Printing and Stationery.. . . . | 366 00 |
| Total.. . . . | | | \$ 1,996 90 |

APRIL**TO PAY VOUCHER.**

| Date. No. | Of | For | Amount. |
|-----------|---|---|----------|
| 1 9608 | The Lake Shore & Michigan Southern Ry. Co., | Freight.. . . . | \$ 13 78 |
| 9609 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. . . . | 187 63 |
| 9610 | Taylor & Lewis, | Repairs to Engine House No. 2.. . . . | 343 00 |

APRIL, Continued.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|-----------|---|--|-----------|
| 1 9611 | Pay Roll, Pumping Station, | Disbursed by Geo. C. Genshelmer, Ass't Sec'y.. | \$ 710 00 |
| 9612 | Pay Roll, Office and Inspectors, | Disbursed by Geo. C. Genshelmer, Ass't Sec'y.. | 866 66 |
| 8 9613 | Herald Printing & Publishing Co., | Advertising.. | 3 00 |
| 9614 | Held, Gorenflo & Co., | Advertising.. | 3 50 |
| 9615 | Times Publishing Company, | Advertising.. | 3 75 |
| 9616 | The Dispatch Publishing Company, | Advertising.. | 6 80 |
| 9617 | Geo. C. Genshelmer, Ass't Sec'y, | Sundries.. | 14 40 |
| 9618 | F. P. Gill, | Patterns.. | 226 50 |
| 9619 | F. A. Mizener, | Coal | 543 87 |
| 9620 | Lake Shore Foundry, | Pipe and Specials.. | 1,825 38 |
| 9621 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. | 292 65 |
| 15 9622 | Geo. C. Genshelmer, Ass't Sec'y, | Sundries.. | 7 70 |
| 9623 | The Lake Shore & Michigan Southern Ry. Co., | Freight.. | 18 23 |
| 9624 | Patrick Doyle, | Earth.. | 24 12 |
| 9625 | Martin McCormick, | Earth.. | 50 00 |
| 9626 | Jos. H. King & Co., | Teaming.. | 154 83 |
| 9627 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. | 373 31 |
| 9628 | Lake Shore Foundry, | Pipe.. | 2,306 63 |
| 22 9629 | The Erie Gas Company, | Coke.. | 1 10 |
| 9630 | Murphy Bros., | Torches, Oil and Can.. | 1 35 |
| 9631 | The Atlantic Refining Company, Eclipse Station, | Oil.. | 2 63 |
| 9632 | O. C. Thayer & Son, | Cement and Lime.. | 2 90 |
| 9633 | Mehl & Sapper, | Hardware and Tools.. | 2 97 |
| 9634 | C. Kessler, | Brooms.. | 3 00 |
| 9635 | Union Water Meter Company, | Meter Cover | 3 90 |
| 9636 | Lyman Felhelm, | Lumber.. | 3 01 |
| 9637 | Mehl & Sapper, | Hardware and Tools.. | 3 21 |

APRIL, Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|---------|---------|
| 22 | 9638 | Warfel & Arbuckle, | | |
| | | Horse Blankets.. | \$ 3 25 | |
| | 9639 | Skinner Engine Company, | | |
| | | Repairing Oiling Pump.. | 3 25 | |
| | 9640 | The Flickinger Roofing and Cornice Co., Limited, | | |
| | | Torches.. | 3 28 | |
| | 9641 | Thomson Meter Co., | | |
| | | Repairing Meter.. | 3 35 | |
| | 9642 | Wm. F. Nick & Son, | | |
| | | Brush, Paint and Oil.. | 3 80 | |
| | 9643 | C. Kessler, | | |
| | | Soap.. | 4 25 | |
| | 9644 | O C Thayer & Son, | | |
| | | Cement.. | 4 50 | |
| | 9645 | G. J. Gebhardt, | | |
| | | Coal.. | 5 25 | |
| | 9646 | Brown & Thomas, | | |
| | | Iron Rails.. | 5 70 | |
| | 9647 | Herald Printing & Publishing Co., | | |
| | | Stationery.. | 6 00 | |
| | 9648 | C. Kessler, | | |
| | | Brooms, Tallow, etc.,.. | 6 10 | |
| | 9649 | Lester J. Zuck, | | |
| | | Hardware and Tools.. | 6 31 | |
| | 9650 | A. V. Fox, | | |
| | | Horse Shoelng.. | 6 40 | |
| | 9651 | Wm. Schade, | | |
| | | Blacksmithing.. | 6 46 | |
| | 9652 | Erie Machine Shop, | | |
| | | Tools.. | 6 60 | |
| | 9653 | Erie Machine Shop, | | |
| | | Tools and Labor.. | 8 32 | |
| | 9654 | Ashby & Vincent, | | |
| | | Stationery.. | 8 40 | |
| | 9655 | Constable Bros., | | |
| | | Repairing Bulidings.. | 8 98 | |
| | 9656 | Franklin Coal Co., | | |
| | | Coal.. | 11 00 | |
| | 9657 | Keystone Electric Company, | | |
| | | Repairs to Electric Light Plant.. | 12 19 | |
| | 9658 | J. M. Dunn, | | |
| | | Brick.. | 13 12 | |
| | 9659 | Consumers' Ice & Cold Storage Co., | | |
| | | Ice.. | 13 30 | |
| | 9660 | Wm. Densmore & Co., | | |
| | | Oats.. | 17 75 | |
| | 9661 | Superior Stamp Co., | | |
| | | Coupon Cutting Stamp.. | 18 00 | |
| | 9662 | Wm. Densmore & Co., | | |
| | | Oats..... | 18 50 | |
| | 9663 | E. J. Riblet, | | |
| | | Shop Rent.. | 20 00 | |
| | 9664 | Union Water Meter Company, | | |
| | | Meters..... | 22 70 | |

APRIL, Continued.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|-----------------|---|--|-------------|
| 22 9665 | John Hamberger, | Insurance Premium.. | \$ 25 00 |
| 9666 | Reed Manufacturing Company, | Charging Wagon.. | 26 00 |
| 9667 | Globe Iron Foundry Co., | Castings.. | 27 74 |
| 9668 | Hays Manufacturing Co., | Fittings.... | 28 73 |
| 9669 | Robt. T. Walker, | Barn Rent.. | 30 00 |
| 9670 | Union Water Meter Company, | Meters.. | 57 00 |
| 9671 | R. D. Wood & Co., | Valves.. | 58 80 |
| 9672 | Hays Manufacturing Co., | Fittings.. | 64 70 |
| 9673 | Walker Foundry Company, | Castings.. | 69 56 |
| 9674 | Erie Oil Works, | Oil.... | 97 51 |
| 9675 | Erie Mfg. & Supply Co., | Packing, Tools, Valves, etc.,.. | 114 52 |
| 9676 | Keystone Electric Company, | Labor and Material for Electric Light Plant.. | 115 72 |
| 9677 | The Atlantic Refining Company, Eclipse Station, | Oil.. | 121 18 |
| 9678 | Geo. C. Genshelmer, Ass't Sec'y, | Sundries.. | 41 60 |
| 9679 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. | 397 81 |
| 23 9680 | T. W. Shacklett, | Services as Commissioner.. | 150 00 |
| 9681 | William Hardwick, | Services as Commissioner.. | 150 00 |
| 9682 | Clark Olds, | Services as Commissioner.. | 150 00 |
| 9683 | The Erie Painting & Decorating Company, | Painting as per Contract.. | 259 08 |
| 9684 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. | 425 60 |
| 9685 | Pay Roll, Pumping Station, | Disbursed by Geo. C. Genshelmer, Ass't Sec'y.. | 710 00 |
| 9686 | Pay Roll, Office and Inspectors, | Disbursed by Geo. C. Genshelmer, Ass't Sec'y.. | 866 66 |
| Total.. | | | \$12,237 78 |

MAY.

TO PAY VOUCHER.

| Date. | No. | Of | For | A |
|-------|------|---|--|----|
| 6 | 9687 | Herald Printing & Publishing Co., | Advertising.. | \$ |
| | 9688 | Held, Gorenflo & Co., | Advertising.. | |
| | 9689 | The Engineering News Publishing Co., | One Year's Subscription.. | |
| | 9690 | The Lake Shore & Michigan Southern Ry. Co., | Freight.. | |
| | 9691 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries.. | |
| | 9692 | Erie Mfg. & Supply Co., | Boiler Compound, Waste, etc.,.. | |
| | 9693 | Taylor & Lewis, | Repairs to Engine House No. 2.. | |
| | 9694 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk,.. | |
| | 9695 | F. A. Mizener, | Coal.. | |
| 13 | 9696 | John F. Culhane, | Plumbing.. | |
| | 9697 | Geo. W. Bryan, | Plumbing.. | |
| | 9698 | Times Publishing Company, | Advertising.. | |
| | 9699 | Wm. F. Nick & Son, | Lead, Paint, Oil, etc.,.. | |
| | 9700 | Jarecki Manufacturing Co., | Fittings.. | |
| | 9701 | Wm. F. Nick & Son, | Lead, Paint, Oil, etc.,.. | |
| | 9702 | G. J. Gelphardt, | Wood.. | |
| | 9703 | O. C. Thaver & Son, | Cement.. | |
| | 9704 | A. S. Pinney, | Hardware and Tools.. | |
| | 9705 | Mehl & Sapper, | Hardware and Tools.. | |
| | 9706 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries.. | |
| | 9707 | Erie Machine Shop, | Tools.. | |
| | 9708 | Franklin Coal Co., | Coal.. | |
| | 9709 | J. M. Dunn, | Brick.. | |
| | 9710 | Pennsylvania Company, | Freight.. | |
| | 9711 | Wm. Densmore & Co., | Oats.. | |
| | 9712 | Lake City Machine Shop, | Tools.. | |
| | 9713 | Bay State Iron Works, | Repairs to Engine House No. 2.. | |

MAY, Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|---|----------|---------|
| 13 | 9714 | Jas. L. Firman, | | |
| | | Teaming.. . . . | \$ 30 13 | |
| | 9715 | Knowlton Packing Company, | | |
| | | Packing.. . . . | 39 28 | |
| | 9716 | Globe Iron Foundry Co., | | |
| | | Castings.. . . . | 39 33 | |
| | 9717 | Walker Foundry Co., | | |
| | | Castings.. . . . | 55 00 | |
| | 9718 | Hays Manufacturing Co., | | |
| | | Fittings.. . . . | 68 28 | |
| | 9719 | Baas & Althof, | | |
| | | Repairs to Engine House No. 2.. . . . | 72 42 | |
| | 9720 | Union Water Meter Company, | | |
| | | Meters.. . . . | 114 00 | |
| | 9721 | The Atlantic Refining Company, Eclipse Station, | | |
| | | Oil.. . . . | 128 68 | |
| | 9722 | Constable Bros., | | |
| | | Labor and Material on Buildings.. . . . | 180 24 | |
| | 9723 | The E. W. Van Dusen Co., | | |
| | | Pump and Strainer.. . . . | 44 00 | |
| | 9724 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. . . . | 452 59 | |
| 20 | 9725 | Held, Gorenflo & Co., | | |
| | | Advertising.. . . . | 2 00 | |
| | 9726 | The National Carbon Co., | | |
| | | Carbons.. . . . | 22 27 | |
| | 9727 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight.. . . . | 54 19 | |
| | 9728 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries.. . . . | 64 32 | |
| | 9729 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. . . . | 408 91 | |
| 27 | 9730 | Edison Construction & Supply Department, | | |
| | | Electric Light Supplies.. . . . | 1 04 | |
| | 9731 | The Erie Gas Company, | | |
| | | Coke.. . . . | 1 77 | |
| | 9732 | The Atlantic Refining Company, Eclipse Station, | | |
| | | Oil.. . . . | 2 50 | |
| | 9733 | J. H. Braggins, | | |
| | | Labor, Brass Bands, etc., | 3 03 | |
| | 9734 | O. C. Thayer & Son, | | |
| | | Cement.. . . . | 3 30 | |
| | 9735 | F. A. Sherrer, | | |
| | | Cutting Stone.. . . . | 3 50 | |
| | 9736 | Lester J. Zuck, | | |
| | | Tools.. . . . | 4 00 | |
| | 9737 | C. Kessler, | | |
| | | Soap and starch.. . . . | 4 45 | |
| | 9738 | Erie Machine Shop, | | |
| | | Repairs to Drinking Fountain.. . . . | 5 70 | |
| | 9739 | Mehl & Sapper, | | |
| | | Hardware and Tools.. . . . | 6 19 | |
| | 9740 | Henry Beckman & Son, | | |
| | | Clover Seed.. . . . | 6 50 | |

MAY, Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|---|-----|----------|
| 27 | 9741 | A. S. Pinney, | | |
| | | Hardware and Tools.. . . . | \$ | 7 17 |
| | 9742 | A. V. Fox, | | |
| | | Horse Shoeing.. . . . | | 8 40 |
| | 9743 | Keystone Electric Company, | | |
| | | Repairs to Electric Light Plant.. . . . | | 11 25 |
| | 9744 | Jarecki Manufacturing Co., | | |
| | | Fittings.. . . . | | 11 86 |
| | 9745 | Erie Window Glass Co., | | |
| | | Glass and Paint.. . . . | | 13 45 |
| | 9746 | David Schlosser & Son, | | |
| | | Lumber.. . . . | | 14 91 |
| | 9747 | Bay State Iron Works, | | |
| | | Repairs to Engine House No. 2.. . . . | | 15 77 |
| | 9748 | E. J. Riblet, | | |
| | | Shop Rent.. . . . | | 20 00 |
| | 9749 | Baas & Althof, | | |
| | | Repairs to Engine House No. 3.. . . . | | 32 35 |
| | 9750 | Lyman Felhelm, | | |
| | | Lumber and Meter Box.. . . . | | 33 84 |
| | 9751 | Herald Printing & Publishing Co., | | |
| | | Stationery and Printing | | 46 21 |
| | 9752 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight.. . . . | | 86 74 |
| | 9753 | Erie Mfg. & Supply Co., | | |
| | | Boiler Compound, Packing, etc.,... . | | 106 76 |
| | 9754 | Erie Oil Works, | | |
| | | Oil.. . . . | | 111 49 |
| | 9755 | Keystone Brass Works, | | |
| | | Repairs to Engine House No. 2.. . . . | | 247 45 |
| | 9756 | Hays Manufacturing Co., | | |
| | | Fittings and Pipe.. . . . | | 452 71 |
| | 9757 | Jarecki Manufacturing Co., | | |
| | | Pipe.. . . . | | 512 85 |
| | 9758 | Geo. C. Genshelmer, Ass't Sec'y, | | |
| | | Sundries.. . . . | | 26 16 |
| | 9759 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk, | | 528 10 |
| | 9760 | The Constable Bros., Co., | | |
| | | Labor and material on Buildings.. . . . | | 71 55 |
| 29 | 9761 | T. H. Brooks & Co., | | |
| | | Repairs to Engine House No. 2.. . . . | | 726 31 |
| | | Total.. . . . | \$ | 6,174 12 |

JUNE.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|---|--|---------|
| 1 | 9762 | Pay | Roll, Pumping Station, Disbursed by Geo. C. Genshelmer, Ass't Sec'y..\$ | 710 00 |
| | 9763 | Pay | Roll, Office and Inspectors, Disbursed by Geo. C. Genshelmer, Ass't Sec'y.. | 866 66 |
| 3 | 9764 | Geo. C. Genshelmer, Ass't Sec'y, | Sundries.. | 4 94 |
| | 9765 | Pay | Roll, Street Work, Disbursed by M. L. Whitley, Clerk.. | 536 00 |
| 10 | 9766 | James L. Firman, | Teaming.. | 15 90 |
| | 9767 | The Lake Shore & Michigan Southern Ry. Co., | Freight.. | 55 80 |
| | 9768 | F. A. Mizener, | Coal.. | 88 74 |
| | 9769 | Pay | Roll, Street Work, Disbursed by M. L. Whitley, Clerk.. | 655 13 |
| | 9770 | U. Jackson, | Whitewashing Fence.. | 15 00 |
| | 9771 | Geo. C. Genshelmer, Ass't Sec'y, | Sundries.. | 191 72 |
| 15 | 9772 | James Vernon, | On Contract for Retaining Wall.. | 50 00 |
| 17 | 9773 | Skinner Engine Company, | Repairs Engine House No. 3.. | 1 69 |
| | 9774 | The Sunday Messenger Publishing Co., | Advertising.. | 1 90 |
| | 9775 | Franklin Coal Co., | Wood.... | 2 00 |
| | 9776 | Herald Printing & Publishing Co., | Advertising.. | 2 00 |
| | 9777 | J. Jacobs, | Oil Suit.. | 2 25 |
| | 9778 | Murphy Bros., | Tools.. | 2 40 |
| | 9779 | Geo. Schlindwein, | Repairing Harness.. | 3 10 |
| | 9780 | The Erie Gas Company, | Coke.. | 3 09 |
| | 9781 | Lake Shore Brick Works, | Brick.. | 3 36 |
| | 9782 | C Kessler, | Brooms and Soap.. | 4 13 |
| | 9783 | A. V. Fox, | Horse Shoeing.. | 4 80 |
| | 9784 | Erie Machine Shop, | Tools.. | 4 90 |
| | 9785 | Erie City Iron Works, | Boiler Repairs.. | 5 35 |
| | 9786 | Jarecki Manufacturing Co., | Repairs Engine House No. 3.. | 6 25 |
| | 9787 | Keystone Electric Company, | Repairs Electric Light Plant.. | 7 10 |
| | 9788 | Henry Beckman & Son, | Clover Seed.. | 7 50 |

JUNE, Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|---|----------|
| 17 | 9789 | A. S. Nelson, | Pattern Work.. | \$ 10 50 |
| | 9790 | A. S. Pinney, | Hardware and Tools.. | 12 38 |
| | 9791 | Wm. Schade, | Blacksmithing and Tools.. | 13 39 |
| | 9792 | Mehl & Sapper, | Hardware and Tools.. | 13 53 |
| | 9793 | J. M. Dunn, | Brick.. | 13 75 |
| | 9794 | South Erie Iron Works, | Castings.. | 14 62 |
| | 9795 | Erie Steam Bending Works, | Stakes.. | 15 00 |
| | 9796 | Wm. F. Nick & Son. | Oil, Paint and Varnish.. | 15 90 |
| | 9797 | Robert Serr, | Labor.. | 16 50 |
| | 9798 | The Dispatch Publishing Company, | Advertising | 17 80 |
| | 9799 | Times Publishing Company, | Advertising and Printing | 18 50 |
| | 9800 | E. J. Riblet, | Shop Rent,.... | 20 00 |
| | 9801 | David Schlosser & Sons, | Lumber.. | 21 02 |
| | 9802 | Henry R. Worthington, | Repairs Engine No. 4.. | 22 50 |
| | 9803 | O. C. Thaver & Son, | Cement and Pipe.. | 25 42 |
| | 9804 | The Flickinger Roofing and Cornice Co., Ltd., | Copper Pans and Iron Falls.. | 29 36 |
| | 9805 | Globe Iron Foundry Co., | Castings.. | 43 41 |
| | 9806 | The Lake Shore & Michigan Southern Ry. Co., | Freight.. | 64 29 |
| | 9807 | The Dispatch Printing & Engraving Company, Ltd., | Printing and Stationery.. | 75 00 |
| | 9808 | Lyman Feiheim, | Lumber.. | 86 34 |
| | 9809 | Atlantic Refining Company, Eclipse Station, | Oil.. | 104 19 |
| | 9810 | Erie Mfg. & Supply Co., | Gaskets, Gauge Glasses, Valves, etc.,.. | 202 43 |
| | 9811 | Hays Manufacturing Co., | Fittings and Pipe.. | 229 45 |
| | 9812 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. | 661 08 |
| 24 | 9813 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries.. | 4 10 |
| | 9814 | New York & Penn'a. Telephone & Telegraph Co., | Rental of Telephone.. | 6 00 |
| | 9815 | Mutual Telephone Company, | Rental of Telephones.. | 36 00 |

JUNE, Continued.**TO PAY VOUCHER.**

| Date. No. | Of | For | Amount. |
|---------------|--|-----------|-------------|
| 24 9816 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. . . . | \$ 645 19 | |
| 29 9817 | N. Murphy, | | |
| | Specifications for Stand Pipe.. . . . | 10 00 | |
| 9818 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | Freight.. . . . | 61 05 | |
| 9819 | Pay Roll, Pumping Station, | | |
| | Disbursed by Geo. C. Genshelmer, Ass't Sec'y.. | 660 00 | |
| 9820 | Pay Roll, Office and Inspectors, | | |
| | Disbursed by Geo. C. Genshelmer, Ass't Sec'y.. | 866 66 | |
| Total.. . . . | | | \$ 7,287 47 |

JULY.**TO PAY VOUCHER.**

| Date. No. | Of | For | Amount. |
|-----------|---|---------|---------|
| 1 9821 | D. Shields, | | |
| | Labor.. . . . | \$ 3 75 | |
| 9822 | Thos. Pickering, | | |
| | Livery.. . . . | 4 00 | |
| 9823 | Wm. Richter, | | |
| | Labor.. . . . | 5 25 | |
| 9824 | Geo. C. Genshelmer, Ass't Sec'y, | | |
| | Sundries.. . . . | 5 86 | |
| 9825 | F. E. Jeffrey, | | |
| | Labor.. . . . | 9 30 | |
| 9826 | Clark Olds, | | |
| | Services as Commissioner.. . . . | 150 00 | |
| 9827 | William Hardwick | | |
| | Services as Commissioner.. . . . | 150 00 | |
| 9828 | T. W. Shacklett, | | |
| | Services as Commissioner.. . . . | 150 00 | |
| 9829 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. . . . | 645 24 | |
| 9830 | James Vernon, | | |
| | On Contract for Retaining Wall.. . . . | 500 00 | |
| 8 9831 | Jos. Jehle, | | |
| | Rolled Oats.. . . . | 1 00 | |
| 9832 | Not Issued. | | |
| 9833 | O. C. Thaver & Son, | | |
| | Cement.. . . . | 2 10 | |
| 9834 | R. T. Williams & Co., | | |
| | Repairing Connection.. . . . | 2 40 | |
| 9835 | C. Flickinger, | | |
| | Tools.. . . . | 2 91 | |
| 9836 | Herald Printing & Publishing Co., | | |
| | Blank Book.. . . . | 3 00 | |
| 9837 | Campbell & Dunn, | | |
| | Repairing Connection.. . . . | 3 22 | |
| 9838 | Erie Heating & Plumbing Co., | | |
| | Soll Pipe.. . . . | 4 45 | |

JULY, Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|---|---------|---------|
| 8 | 9839 | A. V. Fox, | | |
| | | Horse Shoeing.. | \$ 5 20 | |
| | 9840 | Globe Iron Foundry Co., | | |
| | | Castings.. | 5 39 | |
| | 9841 | The Atlantic Refining Company, Eclipse Station, | | |
| | | Oil.. | 6 00 | |
| | 9842 | A. J. Louch, | | |
| | | Rope.. | 8 75 | |
| | 9843 | The Erie Gas Company, | | |
| | | Coke.. | 10 29 | |
| | 9844 | Henry Beckman & Sons, | | |
| | | Clover Seed, Wire Rope, etc.,.. | 10 95 | |
| | 9845 | Walker Foundry Company, | | |
| | | Castings.. | 11 06 | |
| | 9846 | Keystone Electric Company, | | |
| | | Repairing Electric Light.. | 11 10 | |
| | 9847 | Erie Window Glass Co., | | |
| | | Paints and Oil.. | 12 60 | |
| | 9848 | J. M. Dunn, | | |
| | | Brick.. | 17 60 | |
| | 9849 | E. J. Riblet, | | |
| | | Shop Rent.. | 20 00 | |
| | 9850 | Wm. Densmore & Co., | | |
| | | Oats.. | 20 00 | |
| | 9851 | Wm. F. Nick & Son, | | |
| | | Paints and Oil.. | 22 96 | |
| | 9852 | Mehl & Sapper, | | |
| | | Hardware and Tools.. | 24 25 | |
| | 9853 | A. S. Pinney, | | |
| | | Hardware and Tools.. | 28 29 | |
| | 9854 | South Erie Iron Works, | | |
| | | Castings.. | 30 90 | |
| | 9855 | Lyman Felhelm, | | |
| | | Lumber.. | 35 58 | |
| | 9856 | Wm. Schade, | | |
| | | Blacksmithing and Tools.. | 37 88 | |
| | 9857 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries.. | 41 00 | |
| | 9858 | Erie Steam Bending Works, | | |
| | | Stakes.. | 43 00 | |
| | 9859 | Knowlton Packing Company, | | |
| | | Packing.. | 43 69 | |
| | 9860 | The Flickinger Roofing & Cornice Co., Ltd., | | |
| | | Sheet Copper, Labor, etc.,.. | 61 55 | |
| | 9861 | James L. Firman, | | |
| | | Teaming.. | 103 58 | |
| | 9862 | Erie Oil Works, | | |
| | | Oil.. | 114 91 | |
| | 9863 | F. A. Mizener, | | |
| | | Coal.. | 161 28 | |
| | 9864 | Erie Mfg. & Supply Co., | | |
| | | Check Valves, Waste, etc.. | 204 41 | |
| | 9865 | R. D. Wood & Co., | | |
| | | Fire Hydrants.. | 325 68 | |

JULY, Continued.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|-----------|--------------------------------------|---------|-------------|
| 8 9866 | Momeyer & Graf. | | |
| | Coal.. | .. .. . | \$ 544 98 |
| 9867 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. | .. .. . | 561 02 |
| 9868 | Kraft & Walther, | | |
| | Cement.. | .. .. . | 2 30 |
| 9869 | James Vernon, | | |
| | On Contract for Retaining Wall.. | .. .. . | 72 16 |
| 13 9870 | Jno. Wahl Commission Co., | | |
| | Pig Lead.. | .. .. . | 1,313 55 |
| 15 9871 | Pay Roll, Street Work, | | |
| | Disbursed by Jno. Kolb, Bookkeeper.. | .. .. . | 589 42 |
| 22 9872 | Mrs. N. Block, | | |
| | Washing Towels & Flags.. | .. .. . | 6 00 |
| 9873 | Henry A. Nelmeier, | | |
| | Flower Beds.. | .. .. . | 43 00 |
| 9874 | Pay Roll Street Work, | | |
| | Disbursed by Jno. Kolb, Bookkeeper.. | .. .. . | 490 75 |
| 9875 | E. A. White, | | |
| | Painting per Contract.. | .. .. . | 142 00 |
| 29 9876 | Wm. Kreuger, | | |
| | Repairing Pavement.. | .. .. . | 12 73 |
| 9877 | Pay Roll Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. | .. .. . | 546 25 |
| Total.. | | | \$ 7,384 54 |

AUGUST.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|-----------|--|---------|-----------|
| 1 9878 | Pay Roll, Office and Inspectors, | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | .. .. . | \$ 866 66 |
| 9879 | Pay Roll, Pumping Station, | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | .. .. . | 660 00 |
| 5 9880 | C. O'Callaghan, Sealer Weights and Measures, | | |
| | Testing Scales.. | .. .. . | 2 66 |
| 9881 | Anchor Line, | | |
| | Freight.. | .. .. . | 30 02 |
| 9882 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. | .. .. . | 497 90 |
| 9883 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | Sundries.. | .. .. . | 32 12 |
| 9884 | Henry R. Worthington, | | |
| | On Account Pumping Engine.. | .. .. . | 10,000 00 |
| 9885 | United States Cast Iron Pipe & Foundry Co., | | |
| | Pipe and Specials.. | .. .. . | 5,366 39 |
| 12 9886 | J. Bryce, | | |
| | Livery.. | .. .. . | 1 50 |
| 9887 | J. N. Blaisdell, | | |
| | Setting Tires.. | .. .. . | 2 00 |

AUGUST, Continued.

TO PAY VOUCHER.

| Date. | No | Of | For | Amount. |
|-------|------|--|---------|---------|
| 12 | 9888 | Geo. Schlindwein, | | |
| | | Repairing Harness.. | .. .. . | \$ 2 00 |
| | 9889 | The Transfer Limited, | | |
| | | Draying.. | .. .. . | 2 00 |
| | 9890 | Jarecki Manufacturing Co., | | |
| | | Fittings.. | .. .. . | 2 01 |
| | 9891 | South Erie Iron Works, | | |
| | | Castings .. | .. .. . | 2 25 |
| | 9892 | Gus J. Miller | | |
| | | Brushes, Sponge, etc.,.. | .. .. . | 4 15 |
| | 9893 | Henry Beckman & Sons, | | |
| | | Clover Seed.. | .. .. . | 1 48 |
| | 9894 | A. V. Fox, | | |
| | | Horse Shoeing.. | .. .. . | 4 80 |
| | 9895 | A. S. Pinney, | | |
| | | Packing and Tools.. | .. .. . | 4 85 |
| | 9896 | The Erie Gas Co., | | |
| | | Coke.. | .. .. . | 5 73 |
| | 9897 | Times Publishing Company, | | |
| | | Advertising.. | .. .. . | 5 75 |
| | 9898 | Held, Gorenflo & Co., | | |
| | | Advertising.. | .. .. . | 6 00 |
| | 9899 | Herald Printing & Publishing Co., | | |
| | | Advertising.. | .. .. . | 6 00 |
| | 9900 | J. M. Dunn, | | |
| | | Brick.. | .. .. . | 6 60 |
| | 9901 | Merchants and Manufacturers E. L., H., & P. Co., | | |
| | | Repairing Electric Light Fixtures in Office.... | | 7 61 |
| | 9902 | Mehl & Sapper, | | |
| | | Hardware and Tools.. | .. .. . | 8 34 |
| | 9903 | Kramer & Co., | | |
| | | Electric Light Fixtures at Engine House.. | .. .. | 8 39 |
| | 9904 | Adolph Brugger, | | |
| | | Wooden Plugs.. | .. .. . | 8 40 |
| | 9905 | The Dispatch Publishing Company, | | |
| | | Advertising .. | .. .. . | 9 60 |
| | 9906 | O. C. Thayer & Son, | | |
| | | Cement & Lime.. | .. .. . | 9 60 |
| | 9907 | G. J. Gebhardt, | | |
| | | Coal and Wood.. | .. .. . | 9 85 |
| | 9908 | Consumers Ice & Cold Storage Co., | | |
| | | Ice.. | .. .. . | 11 50 |
| | 9909 | C. Kessler, | | |
| | | Baskets, Soap, Pails, etc.,..... | .. .. . | 11 65 |
| | 9910 | Wm. Densmore & Co., | | |
| | | Oats.. | .. .. . | 19 00 |
| | 9911 | Conrad J. Brown, | | |
| | | Hay.. | .. .. . | 19 10 |
| | 9912 | E. J. Riblet, | | |
| | | Shop Rent.. | .. .. . | 20 00 |
| | 9913 | James L. Firman, | | |
| | | Teaming.... | .. .. . | 20 36 |
| | 9914 | Ashby & Vincent, | | |
| | | Books and Stationery.. | .. .. . | 25 61 |

AUGUST, Continued.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|-----------------|---|---|-------------|
| 12 9915 | David Schlosser & Sons, | Lumber.. | \$ 32 74 |
| 9916 | The Flickinger Roofing & Cornice Co., Ltd., | Brass, Copper and Labor.. | 37 60 |
| 9917 | Erie Steam Bending Works, | Stakes and Lumber.. | 47 00 |
| 9918 | Union Water Meter Company, | Meters.. | 60 00 |
| 9919 | Globe Iron Foundry Co., | Castings.. | 70 76 |
| 9920 | Erie Mfg. & Supply Co., | Packing, Valves, Waste, etc.,.. | 120 04 |
| 9921 | Mayer Bros., | Repairing Pavements.. | 120 19 |
| 9922 | R. D. Wood & Co., | Valves.. | 129 00 |
| 9923 | The Atlantic Refining Company, Eclipse Station, | Oil.. | 148 79 |
| 9924 | Union Water Meter Company, | Meters and Repairs.. | 188 25 |
| 9925 | Hays Manufacturing Co., | Fittings and Pipe.. | 189 97 |
| 9926 | Edison Construction & Supply Department, | Labor and material Electric Plant.... | 205 41 |
| 9927 | Hays Manufacturing Co., | Hydrants, Fittings and Pipe.. | 237 27 |
| 9928 | Momeyer & Graf, | Coal.. | 360 19 |
| 9929 | R. D. Wood & Co., | Valves.. | 492 90 |
| 9930 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. | 517 20 |
| 19 9931 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries.. | 8 10 |
| 9932 | R. T. Williams & Co., | Plumbing Material and Labor.. | 52 81 |
| 9933 | Globe Iron Foundry Co., | Castings.. | 117 80 |
| 9934 | James Vernon, | Retaining Wall.. | 298 93 |
| 9935 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. | 426 05 |
| 26 9936 | The Lake Shore & Michigan Southern Ry. Co., | Freight.. | 41 74 |
| 9937 | Pay Roll Street Work, | Disbursed by John Kolb, Bookkeeper.. | 471 12 |
| Total.. | | | \$22,078 75 |

SEPTEMBER,

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|------|--|-----|---------|
| 1 | 9938 | Ohio Varnish Co., | | |
| | | Turpentine.. | \$ | 25 46 |
| | 9939 | National Carbon Co., | | |
| | | Carbons.. | | 27 22 |
| | 9940 | Clark Olds, | | |
| | | Services as Commissioner.. | | 150 00 |
| | 9941 | William Hardwick, | | |
| | | Services as Commissioner.. | | 150 00 |
| | 9942 | T. W. Shacklett, | | |
| | | Services as Commissioner.. | | 150 00 |
| | 9943 | Pay Roll, Street Work, | | |
| | | Disbursed by John Kolb, Bookkeeper.. | | 481 76 |
| | 9944 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | | 655 03 |
| | 9945 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | | 851 66 |
| 2 | 9946 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries.. | | 4 89 |
| | 9947 | Pennsylvania Company, | | |
| | | Freight.. | | 25 54 |
| | 9948 | E. J. Morton, | | |
| | | Services.. | | 34 00 |
| 9 | 9949 | Lyman Feilheim, | | |
| | | Lumber.. | | 2 00 |
| | 9950 | Herald Printing & Publishing Co., | | |
| | | Blue Print Paper.. | | 2 25 |
| | 9951 | G. J. Gebhardt, | | |
| | | Wood.. | | 2 25 |
| | 9952 | Ashby & Vincent, | | |
| | | Book and Stationery.. | | 2 25 |
| | 9953 | Murphy Bros., | | |
| | | Tools.. | | 2 30 |
| | 9954 | Union Water Meter Company, | | |
| | | Rotary Register.. | | 3 00 |
| | 9955 | J. N. Blaisdell, | | |
| | | Horse Shoeing.. | | 3 20 |
| | 9956 | F. Neubauer, | | |
| | | Material Engine No. 5.. | | 3 30 |
| | 9957 | The Flickinger Roofing & Cornice Co., Ltd., | | |
| | | Material Engine No. 5.. | | 3 33 |
| | 9958 | Consumers' Ice & Cold Storage Co., | | |
| | | Ice.. | | 3 40 |
| | 9959 | The Atlantic Refining Company, Eclipse Station, | | |
| | | Oil.. | | 3 85 |
| | 9960 | Mehl & Sapper, | | |
| | | Hardware and Tools.. | | 3 88 |
| | 9961 | The Erie Gas Company, | | |
| | | Coke.. | | 4 28 |
| | 9962 | A. V. Fox, | | |
| | | Horse Shoeing.. | | 4 30 |
| | 9963 | R. D. Wood, & Co., | | |
| | | Fire Hydrant Repairs.. | | 4 96 |
| | 9964 | O. C. Thayer & Son, | | |
| | | Cement.. | | 5 20 |

SEPTEMBER, Continued.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|---------------|--|-----|-------------|
| 16 9992 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. . . . | \$ | 466 49 |
| 9993 | James Vernon, | | |
| | Stone and Labor.. . . . | | 587 23 |
| 23 9994 | Mutual Telephone Company, | | |
| | Rental of Telephones.. . . . | | 36 00 |
| 9995 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. . . . | | 481 89 |
| 9996 | Erie Elastic Japan Roofing Co., | | |
| | Painting Tin Roofs.. . . . | | 83 57 |
| 30 9997 | The Henesey Mfg. Co., | | |
| | Leather Washers.. . . . | | 7 84 |
| 9998 | Geo. C. Gensheimer, Ass't. Sec'y, | | |
| | Sundries.. . . . | | 29 13 |
| 9999 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. . . . | | 341 07 |
| 10000 | Pay Roll, Pumping Station, | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | | 736 67 |
| 10001 | Pay Roll, Office and Inspectors, | | |
| | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | | 866 66 |
| Total.. . . . | | | \$12,075 42 |

OCTOBER.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|-----------|---|-----|----------|
| 3 10002 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | Freight.. . . . | \$ | 43 18 |
| 6 10003 | Raymond Lead Co., | | |
| | Pig Lead.. . . . | | 1,346 44 |
| 7 10004 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | Sundries.. . . . | | 17 13 |
| 10005 | Pay Roll, Street Work, | | |
| | Disbursed by M. L. Whitley, Clerk.. . . . | | 367 93 |
| 14 10006 | J. H. Braggins, | | |
| | Labor and Iron.. . . . | | 2 17 |
| 10007 | G. J. Gebhardt, | | |
| | Wood.. . . . | | 2 25 |
| 10008 | Pennsylvania Company, | | |
| | Oak Ties.. . . . | | 3 48 |
| 10009 | Consumers' Ice & Cold Storage Co., | | |
| | Ice.. . . . | | 3 75 |
| 10010 | The Erie Gas Company, | | |
| | Coke.. . . . | | 4 50 |
| 10011 | C. A. Taylor, | | |
| | Horse Shoeing.. . . . | | 4 80 |
| 10012 | Ashby & Vincent, | | |
| | Books and Stationery.. . . . | | 5 40 |
| 10013 | Globe Iron Foundry Co. | | |
| | Castings.. . . . | | 5 62 |

OCTOBER, Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|---|------|---------|
| 14 | 10014 | Mehl & Sapper, | | |
| | | Hardware and Tools.. . . . | ..\$ | 6 12 |
| | 10015 | O. C. Thayer & Son, | | |
| | | Cement.. . . . | | 6 60 |
| | 10016 | W. N. Durant, | | |
| | | Counter.. . . . | | 9 00 |
| | 10017 | Erie Heating & Plumbing Co., | | |
| | | Plumbing Material.. . . . | | 10 51 |
| | 10018 | A. S. Pinney, | | |
| | | Hardware and Tools.. . . . | | 10 70 |
| | 10019 | Lake Shore Brick Works, | | |
| | | Brick.. . . . | | 11 15 |
| | 10020 | Conrad J. Brown, | | |
| | | Hay.. . . . | | 11 40 |
| | 10021 | The Flickinger Roofing & Cornice Co., Ltd., | | |
| | | Labor and Iron.. . . . | | 12 65 |
| | 10022 | J. M. Dunn, | | |
| | | Brick.. . . . | | 15 35 |
| | 10023 | Baas & Althof, | | |
| | | Window Guards.. . . . | | 15 60 |
| | 10024 | Jas. McCrea & Co., | | |
| | | Steam Joint Clamp.. . . . | | 16 88 |
| | 10025 | Wm. Densmore & Co., | | |
| | | Oats.. . . . | | 17 50 |
| | 10026 | Wm. Schade, | | |
| | | Tools and Repairs.. . . . | | 18 35 |
| | 10027 | South Erie Iron Works, | | |
| | | Castings.. . . . | | 18 50 |
| | 10028 | E. J. Riblet, | | |
| | | Shop Rent and Cupboard,.. . . . | | 26 00 |
| | 10029 | Union Ice Company, | | |
| | | Ice.. . . . | | 32 37 |
| | 10030 | Skinner Engine Company, | | |
| | | Coal Truck.. . . . | | 40 00 |
| | 10031 | Erie Steam Bending Works, | | |
| | | Stakes.. . . . | | 45 00 |
| | 10032 | Keystone Electric Company, | | |
| | | Repairs to Electric Light Plant.. . . . | | 51 85 |
| | 10033 | D. Long, (Collector), | | |
| | | Taxes in 6th Ward.. . . . | | 59 75 |
| | 10034 | Mayer Bros., | | |
| | | Repairing Cuts in Pavement.. . . . | | 82 19 |
| | 10035 | Union Water Meter Company, | | |
| | | Meters and Repairs.. . . . | | 111 85 |
| | 10036 | The Constable Brothers Company, | | |
| | | Labor and Material on Buildings.. . . . | | 121 06 |
| | 10037 | Henry R. Worthington, | | |
| | | Accumulator Pump and Valves.... . . . | | 139 80 |
| | 10038 | The Atlantic Refining Company, Eclipse Station, | | |
| | | Oil.. . . . | | 146 49 |
| | 10039 | Erie Mfg. & Supply Co., | | |
| | | Gaskets, Valves, Waste, etc.,... . . | | 171 85 |
| | 10040 | Henry Herbst, Collector, | | |
| | | Taxes in 4th Ward.. . . . | | 218 75 |

OCTOBER, Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-----------------|-------|--|-----------|-------------|
| 14 | 10041 | Erie Machine Shop, | | |
| | | Engine Repairs and Tools.. | \$ 233 73 | |
| | 10042 | Hays Manufacturing Co., | | |
| | | Fittings and Pipe.. | 436 30 | |
| | 10043 | Momeyer & Graf, | | |
| | | Coal.. | 600 44 | |
| | 10044 | United States Cast Iron Pipe & Foundry Co., | | |
| | | Pipe.. | 1,349 92 | |
| | 10045 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries.. | 9 24 | |
| | 10046 | Trask, Prescott & Richardson, | | |
| | | Linoleum and Matting.. | 47 58 | |
| | 10047 | James L. Firman, | | |
| | | Teaming.. | 88 79 | |
| | 10048 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight.. | 124 40 | |
| | 10049 | R. D. Wood & Co., | | |
| | | Fire Hydrants.. | 156 00 | |
| | 10050 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. | 491 37 | |
| 21 | 10051 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries.. | 7 50 | |
| | 10052 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight.. | 108 21 | |
| | 10053 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. | 568 00 | |
| | 10054 | Henry R. Worthington, | | |
| | | On Account Engine No. 5.. | 5,156 27 | |
| 28 | 10055 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries.. | 8 80 | |
| | 10056 | National Carbon Co., | | |
| | | Carbons.. | 54 45 | |
| | 10057 | Ashby & Vincent, | | |
| | | Books.. | 126 00 | |
| | 10058 | William Hardwick, | | |
| | | Services as Commissioner.. | 150 00 | |
| | 10059 | T. W. Shacklett, | | |
| | | Services as Commissioner.. | 150 00 | |
| | 10060 | Clark Olds, | | |
| | | Services as Commissioner.. | 150 00 | |
| | 10061 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight.. | 174 52 | |
| | 10062 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. | 643 41 | |
| | 10063 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | 755 00 | |
| | 10064 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | 866 66 | |
| Total.. | | | | \$15,690 54 |

NOVEMBER.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|---|-----|---------|
| 1 | 10065 | Pennsylvania Company, | | |
| | | Freight.. . . . | \$ | 23 94 |
| 4 | 10066 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries.. . . . | | 7 83 |
| | 10067 | Frank Thayer, | | |
| | | Sod.. . . . | | 61 82 |
| | 10068 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight.. . . . | | 67 70 |
| | 10069 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. . . . | | 617 94 |
| 11 | 10070 | Henry Beckman & Sons, | | |
| | | Grass Seed.. . . . | | 1 40 |
| | 10071 | Consumers' Ice & Cold Storage Co., | | |
| | | Ice.. . . . | | 1 10 |
| | 10072 | Murphy Bros., | | |
| | | Tools.. . . . | | 1 50 |
| | 10073 | G. J. Gebhardt, | | |
| | | Wood.. . . . | | 2 25 |
| | 10074 | Keystone Electric Company, | | |
| | | Carbon Brushes and Cord.. . . . | | 3 90 |
| | 10075 | Times Publishing Company, | | |
| | | Advertising.. . . . | | 4 50 |
| | 10076 | Wm. F. Nick & Son, | | |
| | | Oil, Paint and Turpentine.. . . . | | 4 85 |
| | 10077 | A. S. Pinney, | | |
| | | Hardware and Tools.. . . . | | 5 03 |
| | 10078 | C. A. Taylor, | | |
| | | Horse Shoeing and Clip.... | | 5 05 |
| | 10079 | Lyman Felhelm, | | |
| | | Meter Box.. . . . | | 5 35 |
| | 10080 | Erie Window Glass Co., | | |
| | | Glass and Paint.. . . . | | 5 56 |
| | 10081 | New York & Penn'a. Telephone & Telegraph Co., | | |
| | | Telephone Rental.. . . . | | 6 00 |
| | 10082 | Herald Printing & Publishing Co., | | |
| | | Advertising.. . . . | | 6 60 |
| | 10083 | Ashby & Vincent, | | |
| | | Book and Stationery.. . . . | | 7 60 |
| | 10084 | Adolph Brugger, | | |
| | | Wooden Plugs.. . . . | | 9 55 |
| | 10085 | A. J. Louch, | | |
| | | Canvas and Hose.. . . . | | 10 00 |
| | 10086 | The Atlantic Refining Company, Eclipse Station, | | |
| | | Oil.. . . . | | 11 03 |
| | 10087 | C. Kessler, | | |
| | | Soap, Tallow, etc.,... | | 13 95 |
| | 10088 | Mehl & Sapper, | | |
| | | Hardware and Tools.. . . . | | 14 78 |
| | 10089 | The Erie Gas Company, | | |
| | | Coke.. . . . | | 16 46 |
| | 10090 | Wm. Densmore & Co., | | |
| | | Oats.. . . . | | 17 50 |
| | 10091 | Erie Steam Bending Works, | | |
| | | Stakes | | 21 00 |

NOVEMBER, Continued.

TO PAY VOUCHER.

| Date. | No | Of | For | Amount. |
|-----------------|-------|--|----------|-------------|
| 11 | 10092 | E. J. Riblet, | | |
| | | Shop Rent, and Chairs.. | \$ 22 50 | |
| | 10093 | Edison Construction & Supply Department, | | |
| | | Carbons, Globes, etc.,... | 22 29 | |
| | 10094 | O. C. Thayer & Son, | | |
| | | Cement.. | 24 53 | |
| | 10095 | The Fairbanks Company, | | |
| | | Repairing Valve.. | 26 87 | |
| | 10096 | Titus Berst, | | |
| | | Floral Decorations.. | 29 75 | |
| | 10097 | Robt. T. Walker, | | |
| | | Barn Rent, 6 months.. | 30 00 | |
| | 10098 | National Meter Company, | | |
| | | Repairing Meters | 34 00 | |
| | 10099 | J. M. Dunn, | | |
| | | Brick | 42 00 | |
| | 10100 | Erie City Iron Works, | | |
| | | Boiler Repairs.. | 44 25 | |
| | 10101 | The Crandall Fence & Iron Co., | | |
| | | Iron Settees.. | 54 50 | |
| | 10102 | Erie Oil Works, | | |
| | | Oil.. | 77 25 | |
| | 10103 | Globe Iron Foundry Co., | | |
| | | Castings.. | 109 35 | |
| | 10104 | Erie Mfg. & Supply Co., | | |
| | | Grease, Packing, Tools, etc.,... | 163 22 | |
| | 10105 | Hays Manufacturing Co., | | |
| | | Fittings..... | 176 08 | |
| | 10106 | Momeyer & Graf, | | |
| | | Coal.. | 452 06 | |
| | 10107 | James L. Firman, | | |
| | | Teaming and Hay.. | 93 89 | |
| | 10108 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries.. | 29 29 | |
| | 10109 | Globe Iron Foundry Co., | | |
| | | Castings.. | 143 07 | |
| | 10110 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. | 745 71 | |
| | 10111 | Mich'l McMahon, | | |
| | | Old Rope.. | 24 78 | |
| 13 | 10112 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries.. | 6 15 | |
| | 10113 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight.. | 74 00 | |
| | 10114 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. | 683 27 | |
| 25 | 10115 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight.. | 50 37 | |
| | 10116 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. | 646 74 | |
| 29 | 10117 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | 755 00 | |
| | 10118 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | 866 66 | |
| Total.. | | | | \$ 6,382 07 |

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|---|---|----------|
| 2 | 10119 | The Lake Shore & Michigan Southern Ry. Co., | Freight.. | \$ 88 27 |
| | 10120 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. | 638 95 |
| 9 | 10121 | W. F. Nick & Son, | Brush and Oil.. | 1 35 |
| | 10122 | Consumers Ice & Cold Storage Co., | Ice.. | 1 40 |
| | 10123 | J. Jacobs, | Suit of Oil Skins.. | 2 25 |
| | 10124 | C. A. Taylor, | Horse Shoeing.. | 3 20 |
| | 10125 | Harry Thompson, | Caps, Dynamite and Fuse.. | 3 22 |
| | 10126 | C. Kessler, | Brooms.. | 3 50 |
| | 10127 | Lyman Felhelm, | Wooden Plugs.. | 3 75 |
| | 10128 | Erie Heating & Plumbing Company, | Plumbing.. | 4 15 |
| | 10129 | A. S. Pinney. | Hardware and Tools.. | 4 36 |
| | 10130 | Held, Gorenflo & Co., | Advertising.. | 6 00 |
| | 10131 | The Erie Gas Company, | Coke.. | 6 73 |
| | 10132 | The Dispatch Publishing Company, | Advertising.. | 9 60 |
| | 10133 | Keystone Electric Company, | Repairs to Electric Light Plant.. | 10 00 |
| | 10134 | Mehl & Sapper, | Hardware and Tools.. | 14 19 |
| | 10135 | Wm. Schade, | Blacksmithing.. | 14 41 |
| | 10136 | Conrad J. Brown, | Oats.. | 15 60 |
| | 10137 | G. J. Gebhardt, | Coal and Wood.. | 16 00 |
| | 10138 | Keystone Carriage Works, | Top to Wagon.. | 18 00 |
| | 10139 | O. C. Thayer & Son, | Cement and Clay.. | 19 77 |
| | 10140 | E. J. Riblet, | Shop Rent and Repairing Chair.. | 21 75 |
| | 10141 | The Board of Fire Commissioners, | Electric Gong.. | 25 00 |
| | 10142 | Erie Oil Works, | Oil.. | 26 75 |
| | 10143 | Mayer Bros., | Repairing Pavements.. | 28 01 |
| | 10144 | W. H. Maloney & Co., | Trees.. | 30 00 |
| | 10145 | Mutual Telephone Company, | Rental of Telephones.. | 36 00 |

DECEMBER, Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|---|-----|----------|
| 9 | 10146 | J. M. Dunn, | | |
| | | Brick.. | | \$ 47 50 |
| | 10147 | The Shelby Electric Co., | | |
| | | Electric Lamps.. | | 54 00 |
| | 10148 | Erie Machine Shops, | | |
| | | Repairing Engines.. | | 71 70 |
| | 10149 | Jas. McCren & Co., | | |
| | | Steam Joint Clamps.. | | 81 76 |
| | 10150 | The Atlantic Refining Company, Eclipse Station, | | |
| | | Oil.. | | 118 62 |
| | 10151 | Globe Iron Foundry Co., | | |
| | | Castings.. | | 119 03 |
| | 10152 | Hays Manufacturing Co., | | |
| | | Fittings.. | | 136 94 |
| | 10153 | Erie Mfg. & Supply Co., | | |
| | | Packing, Tools, etc.,.. | | 180 19 |
| | 10154 | Henry Shenk, | | |
| | | Repairs to Electric Light House.. | | 405 01 |
| | 10155 | Momeyer & Graf, | | |
| | | Coal.. | | 456 63 |
| | 10156 | R. D. Wood & Co., | | |
| | | Fire Hvdnants and Gate Valves.. | | 708 00 |
| | 10157 | United States Cast Iron Pipe & Foundry Co., | | |
| | | Pipe and Specials.... | | 1,076 81 |
| | 10158 | Jarecki Manufacturing Co., | | |
| | | Brass Discs.. | | 1 05 |
| | 10159 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries.. | | 9 09 |
| | 10160 | The Flickinger Roofing & Cornice Co., Ltd., | | |
| | | Sheet Copper and Labor.. | | 10 50 |
| | 10161 | James L. Firman, | | |
| | | Teaming.. | | 15 98 |
| | 10162 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight.. | | 45 18 |
| | 10163 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. | | 541 09 |
| 16 | 10164 | Pay Roll Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. | | 504 65 |
| | 10165 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | | 755 00 |
| | 10166 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.. | | 866 74 |
| 23 | 10167 | F. Disterdick, | | |
| | | Repairs to Boiler House.. | | 72 64 |
| | 10168 | Isadore Sobel, Postmaster, | | |
| | | Postage Stamps.. | | 100 00 |
| | 10169 | William Hardwick, | | |
| | | Services as Commissioner, 2 months,.. | | 150 00 |
| | 10170 | T. W. Shacklett, | | |
| | | Services as Commissioner, 2 months,.. | | 150 00 |
| | 10171 | Clark Olds, | | |
| | | Services as Commissioner, 2 months, .. | | 150 00 |
| | 10172 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk.. | | 336 36 |

DECEMBER, Continued.

TO PAY VOUCHER.

| Date. No. | Of | For | Amount. |
|-----------|---|--|-------------|
| 22 10173 | S. A. Davenport, | Retainer from March 1st, 1898, to Jan. 1st, 1900.. | \$ 183 33 |
| 10174 | United States Cast Iron Pipe & Foundry Co., | Pipe and Specials.. | 10,822 25 |
| 30 10175 | Volney B. St. John, | Decorating.. | 5 00 |
| 10176 | T. S. Buck, | Numbering Stamp.. | 14 00 |
| 10177 | E. J. Riblet, | Shop Rent.. | 20 00 |
| 10178 | Geo. C. Genshelmer, Ass't Sec'y, | Sundries.. | 56 63 |
| 10179 | Baas & Althof, | Engine Room Furniture and Fixtures.. | 57 70 |
| 10180 | Ashby & Vincent, | Books and Stationery.. | 91 00 |
| 10181 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk.. | 263 95 |
| Total.. | | | \$19,729 54 |

RECAPITULATION, 1899,

| Number Vouchers Issued. | MONTH. | AMOUNTS. |
|-------------------------------|-------------|--------------|
| 14 | January.. | \$ 18,158 92 |
| 57 | February.. | 10,017 50 |
| 20 | March.. | 1,996 90 |
| 79 | April.. | 12,237 78 |
| 75 | May.. | 6,174 12 |
| 59 | June.. | 7,287 47 |
| 57 | July.. | 7,384 54 |
| 60 | August.. | 22,078 75 |
| 64 | September.. | 12,075 42 |
| 63 | October.. | 15,690 54 |
| 54 | November.. | 638 07 |
| 63 | December.. | 19,729 54 |
| 665 | Total.. | \$139,213 55 |

DISBURSEMENTS.

| DEPARTMENT | ACCOUNT. | FOR THE YEAR 1899. | | | | From Beginning of Works to December 31, 1899. |
|---------------|---|--------------------|-----------|-----------|-----------|---|
| | | Labor. | Material. | Total. | | |
| Construction. | Advertising, Hooks, S. & P..... | a \$ | 10 \$ | 4 28 \$ | 4 38 \$ | 649 13 |
| | Boiler No. 1 | g | 01 | 37 | 38 | 2,325 22 |
| | Boiler No. 2 | g | 01 | 38 | 39 | 2,325 36 |
| | Boiler No. 3 | g | 01 | 38 | 39 | 2,325 27 |
| | Boiler No. 4 | g | 01 | 38 | 39 | 2,325 39 |
| | Boiler No. 5 | g | 01 | 38 | 39 | 2,302 82 |
| | Boiler No. 6 | g | 01 | 38 | 39 | 2,302 93 |
| | Boiler No. 7 | g | 01 | 38 | 39 | 2,303 25 |
| | Boiler No. 8 | g | 01 | 38 | 39 | 2,314 21 |
| | Boiler House | g | | | | 15,826 24 |
| | Buildings and Grounds..... | g | 2,467 05 | 2,461 97 | 4,929 02 | 95,111 06 |
| | Civil Engineering..... | | | | | 8 554 80 |
| | Connections | d | 2,066 31 | 1,953 84 | 4,020 15 | 123,199 69 |
| | Drinking Fountains..... | a | 145 69 | 550 37 | 696 06 | 1,577 08 |
| | Electric Light Plant | a | | | | 5,613 64 |
| | Engines and Boilers, to Dec. 31, 1891 | b | 2 04 | 86 21 | 88 25 | 96 715 79 |
| | Engine No. 4 | h | 536 06 | 15,465 79 | 16,001 85 | 48,441 43 |
| | Engine No. 5 | | | | | 17,639 00 |
| | Engine House No. 3..... | a | 3 22 | 136 14 | 139 36 | 21,413 19 |
| | Engine Room, Furniture and Fixtures | a | | | | 1,664 91 |
| | Expense | a | 70 | 1 34 | 2 04 | 398 67 |
| | Fire Hydrants | a | 90 42 | 858 54 | 948 96 | 28,559 51 |
| | Fuel | a | 60 | 25 16 | 25 76 | 264 02 |
| | Gas Well | | | | | 8,148 59 |
| | High Service System..... | h | 3,604 43 | 29,479 13 | 33,083 56 | 48,298 45 |

WATER WORKS, IN THE CITY OF ERIE.

43

Construction.

| | | | | |
|--|---|----------|-----------|------------|
| H. S. S Stand Pipe No. 2, Iron Work | i | 41 86 | 5 16 | 47 02 |
| H. S. S Stand Pipe No. 2, Stone Work | i | 35 06 | 5 16 | 40 22 |
| Horse, Wagon and Cartage | | 50 22 | 201 42 | 5,205 42 |
| Intake Pipe No. 1 | b | | | 49,474 39 |
| Intake Pipe No. 2 | b | | | 140,971 03 |
| Interest and Discount | | | | 99,420 95 |
| Light, Oil, Lamps, Wicks, &c. | a | 55 | 23 17 | 23 72 |
| Lowering Mains | | 412 58 | | 412 58 |
| Mains and Branches | | 6,964 46 | 22,672 51 | 29,636 91 |
| Main, 30 inch | | | | 585,058 11 |
| Meters | | 173 29 | 769 72 | 75,956 60 |
| Office, Furniture and Fixtures | a | 44 | 18 72 | 20,863 72 |
| Oil and Tallow | b | 21 | 9 06 | 1,633 42 |
| Park Fountains | | | | 31 46 |
| Railroad Switch and Scales | | | | 3,244 68 |
| Reservoir | | | | 2,918 92 |
| Shop Rent | a | 2 86 | 120 77 | 123,150 83 |
| Steel Plate Chimney No. 1 | g | | | 1,037 09 |
| Stop Valves | | 139 68 | 1,316 83 | 4,177 53 |
| Superintendent's Stores | | | | 37,762 49 |
| Telephone and Telegraph | a | 10 | 4 44 | 217 05 |
| Tools and Repairs | g | 366 59 | 50 62 | 22 86 |
| Waste and Packing | g | | | 5,895 22 |
| Water Lots | e | | | 5 |
| Advertising, Books, S. & P. | a | 48 | 20 18 | 15,851 29 |
| Boilers to March 5, 1898 | | | | 514 38 |
| Boiler No. 1 | h | 40 71 | 78 21 | 24,501 08 |
| Boiler No. 2 | h | 46 74 | 79 30 | 216 00 |
| Boiler No. 3 | h | 43 03 | 80 49 | 235 02 |
| Boiler No. 4 | h | 49 12 | 84 85 | 219 75 |
| Boiler No. 5 | h | 39 74 | 81 46 | 220 22 |
| Boiler No. 6 | h | 45 23 | 81 88 | 204 69 |
| Boiler No. 7 | h | 34 83 | 78 71 | 223 18 |

a Accounts opened in 1891. c Accounts opened in 1893. e Accounts opened in 1895. h Accounts opened in 1898.

b Accounts opened in 1892. d Accounts opened in 1894. g Accounts opened in 1897. i Accounts opened in 1899.

Maintenance.

DISBURSEMENTS.—Continued.

| DEPARTMENT. | ACCOUNT. | FOR THE YEAR 1899. | | | From Beginning of Works to December 31, 1899. |
|--------------|--|--------------------|-----------|-----------|---|
| | | Labor. | Material. | Total. | |
| Maintenance. | Boiler No. 8 | \$ 32 00 | \$ 78 81 | \$ 110 81 | 188 58 |
| | Boiler House | 67 54 | 150 73 | 218 27 | 404 43 |
| | Buildings and Grounds | 541 79 | 358 56 | 900 35 | 9,893 04 |
| | Connections | 1,569 02 | 295 15 | 1,864 17 | 14,132 93 |
| | Drinking Fountains | 18 28 | 14 77 | 33 05 | 225 36 |
| | Electric Light House | 21 23 | 465 47 | 486 70 | 3,531 77 |
| | Electric Light Plant | 167 58 | 168 50 | 336 08 | 1,051 55 |
| | Engines to Dec. 31, 1892 | | | | 13,402 04 |
| | Engine No. 1 | 6 44 | 22 76 | 29 20 | 144 73 |
| | Engine No. 2 | 6 45 | 22 76 | 29 21 | 470 24 |
| | Engine No. 3 | 122 34 | 170 84 | 293 18 | 1,184 15 |
| | Engine No. 4 | 406 62 | 304 11 | 710 73 | 3,531 17 |
| | Engine No. 5 | 74 91 | 146 80 | 161 71 | 161 71 |
| | Engine House No. 1 | 93 63 | 184 40 | 278 03 | 1,684 54 |
| | Engine House No. 2 | 712 33 | 2,887 64 | 3,599 97 | 7,814 66 |
| | Engine House No. 3 | 137 99 | 158 17 | 296 16 | 1,655 05 |
| | Engine Room Furniture and Fixtures | 2 11 | 75 80 | 77 91 | 373 19 |
| | Expense | 69 | 1 35 | 2 04 | 363 92 |
| | Fire Hydrants | 245 92 | 36 35 | 282 27 | 3,057 79 |
| | Fuel | 60 | 25 16 | 25 76 | 218 78 |
| | High Service System | 9 86 | 27 63 | 37 49 | 37 49 |
| | Horse, Wagon and Cartage | 60 04 | 203 20 | 263 24 | 5,280 79 |
| | Intake Pipe No. 1 | | | | 146 40 |
| | Intake Pipe No. 2 | 8 97 | 1 87 | 10 84 | 10 84 |
| | Light, Oil, Lamps, Wicks, &c. | 42 | 17 88 | 18 30 | 160 79 |

WATER WORKS, IN THE CITY OF ERIE.

45

Maintenance.

| | | | | |
|-------------------------------------|----------|----------|----------|------------|
| Mains and Branches | 1,655 76 | 354 01 | 2,009 77 | 22,331 48 |
| Main, 30-inch | " | | | 910 49 |
| Meters | a | 111 48 | 188 59 | 5,941 36 |
| Office Furniture and Fixtures | a | 2 11 | 67 96 | 604 61 |
| Oil and Tallow | b | 01 | 35 | 21 28 |
| Railroad Switch and Scales | a | 117 64 | 71 09 | 1,181 74 |
| Reservoir | a | 330 74 | 99 46 | 35,649 87 |
| Shop Rent | a | 2 86 | 120 77 | 1,036 85 |
| Stand Pipe | c | 20 31 | 56 56 | 4,237 97 |
| Steel Plate Chimney No. 1 | h | | | 1 35 |
| Stop Valves | | 258 49 | 148 31 | 6,004 25 |
| Superintendent's Stores | | 383 27 | 608 04 | 396 52 |
| Tools and Repairs | b | 21 | 8 72 | 8,001 25 |
| Waste and Packing | a | 3 05 | 129 11 | 51 31 |
| Advertising, Books, S. & P. | b | 1,361 46 | | 1,629 46 |
| Buildings and Grounds | g | 122 84 | | 9,739 60 |
| Drinking Fountains | h | 2 52 | 106 41 | 297 91 |
| Electric Light | b | | | 161 55 |
| Electric Light Plant | | 7,581 00 | | 34 84 |
| Engineers and Firemen | | | | 144,967 19 |
| Engineer's Stores | a | 85 | 35 76 | 2,348 57 |
| Expense | b | 411 59 | | 1,126 22 |
| Fire Hydrants | g | 6 50 | | 1,427 24 |
| Flushing Sewers | d | 123 04 | 5,201 79 | 37 17 |
| Fuel | c | 2,468 57 | | 173,769 80 |
| Horse, Wagon and Cartage | a | 60 | 25 16 | 54 81 |
| Inspectors | b | 1 53 | 64 56 | 16,825 59 |
| Insurance | a | 345 57 | | 1,579 77 |
| Light, Oil, Lamps, Wicks, &c. | b | 38 47 | 1,626 17 | 508 97 |
| Meters | b | | | 3,894 78 |
| Oil and Tallow | b | 491 35 | | 16,612 01 |
| Rent of Office | b | | | 603 09 |
| Reservoir | b | | | 3,784 42 |

a Accounts opened in 1891. c Accounts opened in 1893. e Accounts opened in 1895. h Accounts opened in 1898.

b Accounts opened in 1892. d Accounts opened in 1894. g Accounts opened in 1897. i Accounts opened in 1899.

Operating.

DISBURSEMENTS.---Continued.

| DEPARTMENT. | ACCOUNT. | FOR THE YEAR 1899. | | | From Beginning of Works to December 31, 1899. |
|--------------|---|--------------------|-------------|--------------|---|
| | | Labor. | Material. | Total. | |
| Operating. | Ship Valves | 32 99 | ..... | 32 99 | 432 62 |
| | Taxes, United States, State, County and School | 6 63 | 280 27 | 286 90 | 2,701 48 |
| | Telephone and Telegraph | 4 00 | 169 07 | 173 07 | 1,649 25 |
| | Tools and Repairs | 2 07 | 87 64 | 89 71 | 946 02 |
| | Turning On and Off Water | 280 68 | ..... | 280 68 | 920 10 |
| | Waste and Packing | 17 35 | 733 83 | 751 18 | 8,046 68 |
| | Water Rents Returned | 25 | 10 65 | 10 90 | 1,104 08 |
| | Advertising, Books, S. & P. | 12 86 | 543 50 | 556 36 | 10,913 25 |
| | Expense | 88 | 37 24 | 38 12 | 14,872 82 |
| | Postage | 8 27 | 349 70 | 357 97 | 7,039 76 |
| Sundries. | Salaries | 7,409 35 | ..... | 7,409 35 | 198,297 65 |
| | City of Erie, Board of Com. of the Sinking Fund ..... | ..... | ..... | ..... | 145,500 00 |
| Legal. | Court Costs ..... | ..... | ..... | ..... | 19 23 |
| | Counsel Fees | 183 33 | ..... | 183 33 | 478 40 |
| | Expense ..... | ..... | ..... | ..... | 4,276 86 |
| Totals | | \$45,461 66 | \$93,751 89 | \$139,213 55 | \$2,675,822 03 |

^a Accounts opened in 1891. ^c Accounts opened in 1892. ^e Accounts opened in 1895. ^h Accounts opened in 1898.

^b Accounts opened in 1892. ^d Accounts opened in 1894. ^g Accounts opened in 1897. ⁱ Accounts opened in 1899.

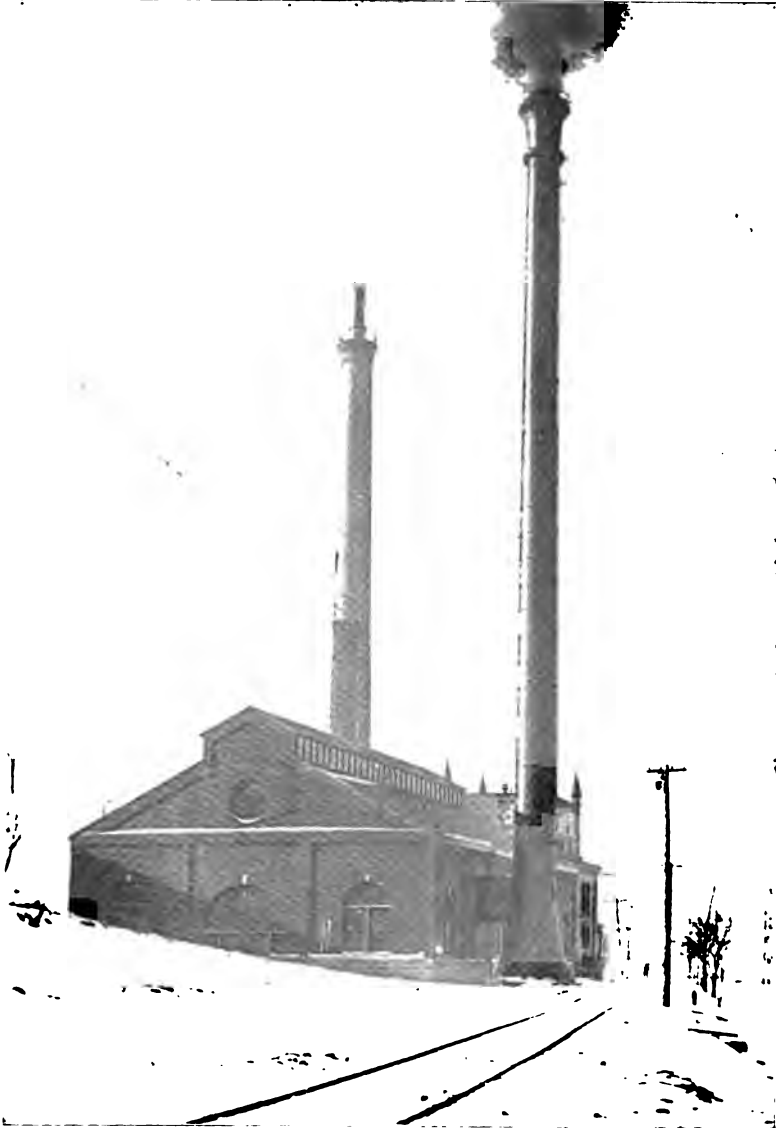
RECAPITULATION.

| DEPARTMENT. | FOR THE YEAR 1899. | | | | From Beginning of Works to Dec. 31, 1899. |
|---------------------|-----------------------------|--------------------|--------------------|---------------------|--|
| | Pro-Rata. | Labor. | Material. | Total. | |
| Construction | .6704657 ⁺ | \$17,114 54 | \$76,223 38 | \$93,337 92 | 1,716,015 42 |
| Maintenance | .1117504 ⁺ | 7,429 52 | 8,127 65 | 15,557 17 | 183,016 40 |
| Operating | .1564023 ⁺ | 13,302 91 | 8,470 42 | 21,773 33 | 395,203 22 |
| Accounting | .0000645 ⁺ | 7,431 36 | 930 44 | 8,361 80 | 231,123 48 |
| Sundries ..... | ..... | ..... | ..... | ..... | 145,519 23 |
| Legal | .0013168 ⁺ | 183 33 | ..... | 183 33 | 4,944 28 |
| Totals | .9999997⁺ | \$45,461 66 | \$93,751 89 | \$139,213 55 | \$2,675,822 03 |

Amount of Coal Consumed in Pumping, Gallons of Water Pumped, Average Height Pumped, Cost per Million Gallons, Etc., from First Year Works were operated to December 31, 1899.

| YR. | Tons Coal Consumed. | Cost Coal from Jan. 1 to Dec. 31. | Grades of Coal. | Gallons of Water Pumped. | Increase or Decrease. | Number of places supplied. | No of Fire Hydrants. | Average height of water in Reservoir above surface of Bay. | Cost Coal per million gallons raised to level of Reservoir. | Gallons raised by one pound of Coal. |
|---------|---------------------|-----------------------------------|-----------------|--------------------------|-----------------------|----------------------------|----------------------|--|---|--------------------------------------|
| 1868... | 591 1 | \$ 309 61 | Lump. | 246,648,960 | | 1,218 | 97 | 232 0 | \$18 76 | 98 5 |
| 1869... | 544 4 | 4,818 48 | " | 279,368,495 | 32,719,535 i | 1,727 | 99 | 232 0 | 16 52 | 150 9 |
| 1870... | 1,064 5 | 5,159 10 | " | 395,076,000 | 115,707,505 i | 2,140 | 103 | 232 0 | 21 90 | 114 8 |
| 1871... | 1,422 7 | 7,117 00 | " | 384,062,415 | 11,013,585 d | 2,475 | 107 | 232 0 | 17 38 | 126 4 |
| 1872... | 1,308 5 | 6,528 80 | " | 444,817,395 | 60,754,980 i | 2,663 | 110 | 232 0 | 16 30 | 145 5 |
| 1873... | 1,672 5 | 8,412 65 | " | 531,005,475 | 86,188,080 i | 2,700 | 114 | 232 0 | 13 30 | 159 3 |
| 1874... | 1,759 0 | 7,709 54 | " | 670,726,650 | 139,721,175 i | 2,763 | 115 | 232 0 | 12 75 | 135 7 |
| 1875... | 1,836 4 | 8,657 61 | " | 660,981,810 | 9,744,840 d | 2,854 | 115 | 232 0 | 11 64 | 136 4 |
| 1876... | 1,105 1 | 8,925 22 | " | 807,800,400 | 125,408,085 i | 3,011 | 121 | 232 0 | 8 99 | 126 0 |
| 1877... | 2,456 6 | 8,509 33 | " | 775,805,250 | 31,995,150 d | 3,568 | 126 | 232 0 | 6 68 | 142 2 |
| 1878... | 2,463 3 | 7,945 37 | Slack. | 975,640,934 | 219,835,684 i | 4,110 | 161 | 232 0 | 6 45 | 139 7 |
| 1879... | 2,628 1 | 7,428 92 | " | 815,939,685 | 13,895,755 i | 5,077 | 197 | 234 7 | 4 66 | 170 0 |
| 1880... | 3,076 1 | 6,978 41 | " | 917,781,350 | 101,841,665 i | 5,395 | 248 | 234 3 | 4 99 | 152 4 |
| 1881... | 3,430 3 | 6,517 58 | " | 1,036,496,665 | 118,715,315 i | 5,658 | 270 | 233 9 | 4 40 | 159 7 |
| 1882... | 2,968 2 | 5,355 93 | " | 1,117,389,075 | 80,892,410 i | 6,140 | 280 | 233 3 | 3 86 | 165 8 |
| 1883... | 3,010 8 | 4,502 61 | " | 1,218,213,688 | 100,824,613 i | 6,368 | 318 | 234 1 | 2 95 | 216 0 |
| 1884... | 3,243 8 | 4,575 79 | " | 1,341,708,002 | 123,494,314 i | 6,600 | 333 | 234 6 | 1 89 | 192 1 |
| 1885... | 3,369 0 | 4,318 64 | " | 1,475,358,220 | 133,650,218 i | 7,086 | 346 | 234 2 | 1 80 | 301 5 |
| 1886... | 2,820 4 | 3,589 31 | " | 1,659,625,551 | 184,267,331 i | 7,728 | 372 | 236 9 | 1 81 | 322 4 |
| 1887... | 2,392 3 | 2,545 46 | " | 1,807,038,580 | 147,413,029 i | 8,255 | 393 | 237 3 | 2 18 | 291 42 |
| 1888... | 2,446 0 | 2,661 12 | " | 2,047,993,505 | 240,954,925 i | 8,998 | 415 | 237 4 | 2 35 | 279 43 |
| 1889... | 2,583 6 | 3,052 89 | " | 2,333,638,610 | 285,645,105 i | 9,687 | 444 | 236 5 | 2 66 | 248 6 |
| 1890... | 3,120 7 | 3,941 53 | " | 1,975,396,305 | 158,797,787 i | 10,680 | 479 | 236 6 | 2 43 | 306 8 |
| 1891... | 3,658 0 | 4,807 11 | " | 2,005,757,728 | 30,361,423 i | 10,846 | 489 | 237 2 | 2 21 | 278 62 |
| 1892... | 4,693 5 | 6,218 95 | " | 2,215,416,770 | 209,659,042 i | 11,385 | 523 | 237 6 | 1 796 | 328 17 |
| 1893... | 2,960 0 | 4,423 59 | " | 2,270,520,528 | 55,103,758 i | 11,932 | 543 | 235 9 | 2 034 | 331 75 |
| 1894... | 3,541 5 | 4,377 16 | " | 2,722,322,604 | 451,802,076 i | 11,932 | 565 | 235 6 | 1 68 | 363 98 |
| 1895... | 3,056 0 | 4,507 52 | " | | | | | | 1 701 | 350 408 |
| 1896... | 3,338 2 | 4,507 52 | Miscel'n. | | | | | | | |
| 1897... | 3,119 0 | 3,815 68 | Slack. | | | | | | | |
| 1898... | 3,819 1 | 4,633 06 | " | | | | | | | |

* HIGH SERVICE SYSTEM comprises all the territory south of Nineteenth street. In this district we endeavor to pump against a head of 300 feet, in the absence of a self-regulating stage we are unable to tell the exact average pressure, hence pumping statistics.



NEW BOILER HOUSE, AND SELF-SUSTAINING STEEL PLATE
CHIMNEY.

BALANCE SHEET---INDIVIDUAL LEDGERS.

1899.

ASSESSED ACCOUNTS.

1899.

| Ward. | Balance from Dec. 31, 1898. | Assessments | Additions. | Penalties. | Balance to Jan. 1, 1900. | Totals. | Balance from Dec. 31, 1898. | Deductions. | Cash. | Balance to Jan. 1, 1900. |
|-------------|--------------------------------|--------------|------------|------------|-----------------------------|--------------|--------------------------------|-------------|--------------|-----------------------------|
| First.... | \$ 74 01 | \$14,767 87 | \$ 675 31 | \$ 70 76 | \$ 44 51 | \$15,632 46 | \$36 80 | \$1,501 55 | \$14,013 18 | \$ 80 93 |
| Second.... | 57 64 | 22,537 83 | 1,072 99 | 77 90 | 76 18 | 23,822 54 | 65 10 | 1,034 27 | 22,665 00 | 58 17 |
| Third.... | 51 72 | 24,827 23 | 1,337 36 | 83 27 | 61 47 | 26,361 05 | 77 74 | 1,359 56 | 24,866 28 | 57 47 |
| Fourth.... | 162 50 | 20,665 98 | 945 34 | 78 26 | 59 84 | 21,911 92 | 50 33 | 1,910 39 | 19,889 59 | 61 61 |
| Fifth.... | 50 46 | 9,906 27 | 533 46 | 44 20 | 36 96 | 10,571 35 | 26 00 | 494 67 | 10,000 64 | 50 04 |
| Sixth.... | 49 32 | 11,744 37 | 666 93 | 53 97 | 31 71 | 12,546 30 | 19 58 | 604 98 | 11,874 55 | 47 19 |
| Seventh.... | 7 49 | 749 52 | 121 42 | 6 26 | 78 | 885 47 | 1 04 | 40 77 | 800 04 | 43 62 |
| Total.. | \$453 14 | \$105,199 07 | \$5,352 81 | \$414 62 | \$311 45 | \$111,731 09 | \$276 59 | \$6,946 19 | \$104,109 28 | \$399 03 |

METER ACCOUNTS.

| | | | | | | | | | | |
|-----------|------------|-------------|----------|----------|----------|-------------|-----------|-------------|-------------|------------|
| First.... | \$ 845 94 | \$ 2,762 96 | \$ 2 84 | \$ 94 | \$ 17 92 | \$ 3 630 60 | \$ 262 35 | \$ 3,108 83 | \$ 259 42 | |
| Second.. | 3,870 53 | 13,892 74 | 2,433 14 | 37 52 | .... | 20,233 93 | 1,150 82 | 17,503 25 | 1,577 04 | |
| Third... | 1,300 75 | 5,339 45 | 25 62 | 11 47 | 3 40 | 6,680 69 | 355 78 | 5,498 61 | 826 30 | |
| Fourth.. | 291 27 | 1,085 90 | 18 10 | 2 51 | 24 49 | 1,432 27 | 68 11 | 1,203 38 | 160 78 | |
| Fifth... | 1,169 14 | 4,988 73 | 133 02 | 4 34 | 103 64 | 6,398 87 | 753 84 | 5,328 02 | 317 01 | |
| Sixth... | 202 49 | 1,123 49 | 18 75 | 34 | 101 55 | 1,446 62 | 141 04 | 1,168 02 | 137 56 | |
| Seventh.. | 109 21 | 626 12 | 11 24 | 84 | 11 29 | 758 70 | 57 10 | 630 98 | 70 62 | |
| Total... | \$7,789 33 | \$29,829 39 | 2,642 71 | \$ 57 96 | \$262 29 | \$40,581 68 | \$2 82 | \$2,789 04 | \$34,441 09 | \$3,348 73 |

SPECIAL PERMITS.

| | | | | | | | | | |
|-------------|----------|-------|-------|-------|-------|----------|-------|----------|-------|
| First.... | \$19 16 | ..... | ..... | ..... | ..... | \$19 16 | ..... | \$19 16 | ..... |
| Second.... | 31 00 | ..... | ..... | ..... | ..... | 31 00 | ..... | 31 00 | ..... |
| Third.... | 19 75 | ..... | ..... | ..... | ..... | 19 75 | ..... | 19 75 | ..... |
| Fourth.... | 17 93 | ..... | ..... | ..... | ..... | 17 93 | ..... | 17 93 | ..... |
| Fifth.... | 35 59 | ..... | ..... | ..... | ..... | 35 59 | ..... | 35 59 | ..... |
| Sixth.... | 1 67 | ..... | ..... | ..... | ..... | 1 67 | ..... | 1 67 | ..... |
| Seventh.... | 21 63 | ..... | ..... | ..... | ..... | 21 63 | ..... | 21 63 | ..... |
| Total.. | \$146 73 | ..... | ..... | ..... | ..... | \$146 73 | ..... | \$146 73 | ..... |

BUILDING PERMITS.

| | | | | | | | |
|---------------------|--------------|-------------|-----------|----------|--------------|-----------|--------------|
| First..... | \$ 164 18 | ..... | \$ 164 18 | ..... | ..... | \$ 164 18 | ..... |
| Second..... | 160 14 | ..... | 160 14 | ..... | ..... | 160 14 | ..... |
| Third..... | 104 82 | ..... | 104 82 | ..... | ..... | 104 82 | ..... |
| Fourth..... | 54 13 | ..... | 54 13 | ..... | ..... | 54 13 | ..... |
| Fifth..... | 94 93 | ..... | 94 93 | ..... | ..... | 94 93 | ..... |
| Sixth..... | 36 48 | ..... | 36 48 | ..... | ..... | 36 48 | ..... |
| Seventh..... | 32 24 | ..... | 32 24 | ..... | ..... | 32 24 | ..... |
| Total..... | 646 92 | ..... | 646 92 | ..... | ..... | 646 92 | ..... |
| Water...\$ 8,242 47 | \$135,822 11 | \$ 7,995 52 | \$472 58 | \$573 74 | \$153,106 42 | \$279 41 | \$9,735 23 |
| | | | | | | | \$139,344 02 |
| | | | | | | | \$3,747 76 |

PLUMBING ACCOUNTS.

| | | | | | | | |
|--------------|------------|--------------|------------|----------|----------|--------------|--------------|
| First..... | \$ 95 05 | ..... | \$ 95 05 | ..... | ..... | \$ 77 05 | \$ 18 00 |
| Second.. | 30 18 | ..... | 233 71 | ..... | ..... | 87 52 | 177 00 |
| Third... | 15 34 | ..... | 294 45 | ..... | ..... | 230 89 | 77 15 |
| Fourth..... | ..... | ..... | 75 96 | ..... | \$ 1 75 | 30 65 | 19 31 |
| Fifth..... | ..... | ..... | 3 71 | ..... | 26 00 | 1 00 | 2 71 |
| Sixth..... | ..... | ..... | 4 21 | ..... | ..... | 4 21 | ..... |
| Seventh..... | ..... | ..... | 64 89 | ..... | ..... | 64 89 | ..... |
| Total..... | \$46 15 | \$771 98 | ..... | ..... | ..... | ..... | ..... |
| G'd Tot'l | \$8,288 62 | \$136,594 09 | \$7,995 52 | \$472 58 | \$573 74 | \$153,924 55 | \$279 41 |
| | | | | | | | \$9,762 98 |
| | | | | | | | \$139,840 23 |
| | | | | | | | \$4,041 93 |

1899. *Statement of Account with the City of Erie, Penna.* **1899.**

CITY OF ERIE, PENNA.—Dr.

INTEREST—On balances in in Second National Bank, from October 1, 1898, to April 1, 1899.

Interest on same to December 31, 1899.

From April 1, 1899 to October 1, 1899.

Interest on same to December 31, 1899.

WATER—City Hall

Engine Houses

Fire Hydrants

Flushing Sewers

Settling filling in Sewer Trench

Fountains—Drinking

Fountains—Park

Parks—Central—East

Parks—Central—West

Parks—Lakeside—East

Parks—Lakeside—West

Sprinkling State St., bet. Front & Dock. ..

Sprinkling Streets by Superintendent of Streets

Balance

CREDITS.

BALANCE—December 31, 1898

INTEREST—On same to December 31, 1899.

RENT—Of Offices one year

Balance due the City of Erie, Penna., December 31, 1899.

128 50

3 87

111 57

1 12

215 00

15 00

157 50

1.251 05

50 00

50 00

17 90

72 00

89 90

140 80

4 98

145 78

33 544 28

33,789 34

616,607 51

624,227 74

24,969 11

1 200 00

650,396 85

616,607 51.

1899.

Statement of Resources and Liabilities December 31st.

1899.

RESOURCES:

PLANT NORTH OF FRONT STREET—

| | |
|---|------------|
| Buildings and Grounds including Piers to Intake No. 1 | 114,357 74 |
| Boiler House from January 1, 1896..... | 16,078 14 |
| Engine House No. 3, from January 1, 1892..... | 21 591 35 |
| Boilers from January 1, 1896..... | 18,800 00 |
| Engines and Rollers to December 31, 1891..... | 107,309 35 |
| Engine No. 4, from January 1, 1892..... | 49 147 09 |
| Engine No. 5 from January 1, 1898..... | 17,820 28 |
| Electric Light Plant..... | 193,076 72 |
| Engine Room Furniture and Fixtures..... | 5,711 28 |
| Intake Pipes—No. 1..... | 1,819 03 |
| —No. 2, from January 1, 1892..... | 199,394 79 |
| Railroad Switch and Scales..... | 3,262 09 |
| Steel Plate Chimney, No. 1, from January 1, 1896..... | 4,245 44 |
| Water Lots from January 1, 1895..... | 16 012 59 |

PLANT SOUTH OF FRONT STREET—

| | |
|---|--------------|
| Connections..... | 132 063 72 |
| Drinking Fountains from January 1, 1894..... | 1,597 41 |
| Fire Hydrants..... | 30 197 28 |
| High Service System from January 1, 1898..... | 48,996 31 |
| Mains and Branches..... | 633,434 20 |
| Main 30 inch..... | 83,289 35 |
| Meters..... | 716 723 55 |
| Stop Valves..... | 21,806 31 |
| Office Furniture and Fixtures..... | 40,536 04 |
| Reservoir..... | 991,920 62 |
| PERSONAL ACCOUNTS—Assessed..... | 1,660 20 |
| —Meters..... | 137,629 35 |
| —Plumbing..... | 1,131,210 17 |
| | 1,706,759 34 |

CASH in hands of Treasurer City of Erie.....

LIABILITIES:

ACCOUNTS City of Erie Penn'a.....

| | | |
|---------------------------|--------|--------------|
| —Credits on Assessed..... | 311 45 | 617 181 25 |
| —Credits on Meters..... | 262 29 | 573 74 |
| Balance..... | | 1,094 284 24 |
| | | 1,711,465 49 |

WATER WORKS, IN THE CITY OF ERIE.

53

WATER WORKS, IN THE CITY OF ERIE.

55

| | | | | | | | | | | | | | | | | |
|------------------------|-----|---------|------|---------|------|---------|-----|---------|------|---------|------|---------|----|--------|------|----------|
| Fountains, Drinking | 2 | 30 00 | 2 | 30 00 | 1 | 15 00 | 1 | 15 00 | 2 | 30 00 | 1 | 15 00 | 1 | 18 75 | 10 | 153 75 |
| Fountain Cuspidors | | | 2 | 6 00 | 5 | 15 00 | 1 | 3 00 | | | | | | | 8 | 24 00 |
| Freight Houses | | | 1 | 15 00 | | | | | | | | | | | 1 | 15 00 |
| Glass Washers | | | | | 1 | 18 00 | 1 | 18 00 | | | | | | | 2 | 36 00 |
| Green Houses | | | | | | | | | | | | | | | | |
| Hand Basins | 373 | 305 02 | 448 | 391 49 | 981 | 839 68 | 784 | 648 34 | 92 | 83 83 | 189 | 164 85 | 4 | 4 37 | 2871 | 2437 58 |
| Heating Boilers, H. P. | 350 | 69 31 | 402 | 69 01 | 606 | 123 27 | 533 | 133 25 | 115 | 26 43 | 141 | 18 60 | | | 2147 | 439 87 |
| Horses | 147 | 203 00 | 290 | 386 67 | 403 | 564 00 | 311 | 384 00 | 225 | 315 67 | 239 | 335 00 | 6 | 15 00 | 1621 | 2203 34 |
| Laundries | 1 | 5 00 | 3 | 15 00 | 3 | 15 00 | 2 | 10 00 | | | 1 | 5 00 | | | 10 | 50 00 |
| Libraries | | | | | 1 | 2 56 | | | | | | | | | 1 | 2 56 |
| Lodging Rooms | 145 | 145 00 | 235 | 228 50 | 383 | 382 68 | 215 | 215 00 | 30 | 26 17 | 83 | 50 84 | 7 | 8 75 | 1008 | 1056 94 |
| Meat Markets | 8 | 33 00 | 17 | 92 00 | 16 | 92 00 | 11 | 16 00 | 9 | 51 00 | 9 | 48 00 | | | 70 | 367 00 |
| Milk Depots | 1 | 5 00 | | | | | | | | | | | | | 5 | 21 00 |
| Offices | 67 | 170 87 | 66 | 242 00 | 81 | 268 00 | 87 | 395 00 | 5 | 15 00 | 3 | 9 00 | | | 309 | 1900 87 |
| Opera Houses | | | | | | | 1 | 10 00 | | | | | | | 1 | 10 00 |
| Photograph Rooms | | | 3 | 15 00 | 5 | 25 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | | | 11 | 55 00 |
| Printing Offices | 3 | 35 00 | 3 | 15 00 | 7 | 50 00 | 2 | 10 00 | | | | | | | 15 | 110 00 |
| Public Halls | 8 | 40 00 | 7 | 28 33 | 13 | 70 56 | 7 | 35 00 | 3 | 15 00 | 5 | 21 67 | | | 43 | 210 56 |
| Saloons | 11 | 55 00 | 42 | 210 00 | 27 | 135 00 | 18 | 90 00 | 12 | 60 00 | 8 | 40 00 | 1 | 6 25 | 119 | 596 25 |
| School Scholars | 639 | 52 97 | 1556 | 115 41 | 2015 | 180 04 | 782 | 76 53 | 1176 | 103 20 | 1030 | 73 85 | | | 7198 | 602 00 |
| Slaughter Houses | | | 1 | 8 00 | | | | 5 00 | 4 | 23 00 | 2 | 16 00 | | | 8 | 52 00 |
| Slaughter, U. S. | | | | | | | 1 | 30 00 | | | 1 | | | | 1 | 30 00 |
| Stores | 54 | 235 00 | 150 | 548 00 | 183 | 797 00 | 82 | 321 00 | 43 | 140 00 | 43 | 149 00 | | | 555 | 2190 00 |
| Adjoining Lot | 23 | 67 74 | 19 | 58 95 | 31 | 94 38 | 38 | 109 28 | 11 | 29 98 | 9 | 25 28 | 1 | 3 75 | 132 | 389 36 |
| Curb | 80 | 298 43 | 52 | 165 25 | 106 | 349 07 | 169 | 597 37 | 20 | 72 10 | 24 | 90 60 | 4 | 16 56 | 455 | 1589 38 |
| Hydrant | 30 | 96 22 | 48 | 132 03 | 46 | 180 25 | 81 | 309 76 | 29 | 108 28 | 50 | 197 85 | 3 | 34 74 | 287 | 1059 13 |
| In House | 47 | 156 80 | 101 | 324 41 | 58 | 177 67 | 51 | 161 50 | 57 | 185 62 | 56 | 181 30 | 3 | 16 19 | 373 | 1203 49 |
| Lawn | 66 | 170 75 | 80 | 231 30 | 94 | 370 94 | 86 | 272 49 | 85 | 210 69 | 46 | 174 59 | 21 | 8 19 | 459 | 1438 95 |
| Mill Cuck | 399 | 1060 17 | 497 | 1338 47 | 742 | 2059 87 | 559 | 1616 28 | 380 | 987 17 | 429 | 1281 10 | 12 | 37 21 | 3018 | 8380 27 |
| Sprinklers | 645 | 1850 11 | 797 | 2250 41 | 1077 | 3232 18 | 984 | 3066 68 | 582 | 1593 84 | 614 | 1950 72 | 25 | 116 64 | 4724 | 14060 58 |
| Tanks | 33 | 102 91 | 65 | 213 01 | 92 | 272 50 | 62 | 185 33 | 15 | 63 67 | 27 | 66 50 | | | 294 | 903 92 |
| Trunk Tubs | 98 | 134 67 | 53 | 74 33 | 259 | 362 67 | 297 | 412 00 | 12 | 16 00 | 54 | 65 00 | | | 773 | 1064 67 |
| Wash Tubs, Revolving | 2 | 10 00 | 1 | 5 00 | 2 | 10 00 | 4 | 20 00 | | | 1 | 5 00 | | | 10 | 50 00 |
| Wash Tubs | 100 | 144 67 | 54 | 79 33 | 261 | 372 67 | 301 | 432 00 | 12 | 16 00 | 55 | 70 00 | | | 783 | 1114 67 |
| Total | | | | | | | | | | | | | | | | |



INTERIOR VIEW.—NEW BOILER HOUSE.

RATES FOR CITY WATER.

Approved by Select Council August 19, 1895. Approved by Common
Council September 16, 1895. Approved by the
Mayor September 21, 1895.

And as Amended and Approved November 25, 1899.

ARE ALL ANNUAL EXCEPT AS OTHERWISE INDICATED. AND
PAYABLE QUARTERLY IN ADVANCE, AS FOLLOWS:

First Quarter—January, February, March—January 1st.

Second Quarter—April, May, June—April 1st.

Third Quarter—July, August, September—July 1st.

Fourth Quarter—October, November, December—October 1st.

If the rents for any quarter are not paid within the *first Month thereof five per cent.* may be added. If payment is not made by the 15th day of February, May, August and November of each quarter, the water may be turned off from the premises, and shall not be turned on again, without the consent of the Commissioners of Water Works, until all back rents and penalties are paid, and the further sum of one (1) dollar.

| | |
|--|---------------|
| Air Pump.. | 3 00 |
| Bath Tub—Private (one family) first tub.. . . . | 3 00 |
| Bath Tub—Private (one family) each additional tub.. . . . | 1 50 |
| Bath Tub—Public, each tub.. . . . | 5 00 |
| Bakery, per barrel of flour used (but no charge less than \$5) | 01 |
| Barber Shop, first chair, including hand basin.. . . . | 4 00 |
| Barber Shop, each additional chair, including hand basin.. | 2 00 |
| Billiard Tables, each.. . . . | 1 00 |
| <i>Billiard Tables, when floor is carpeted, one half the above rate:</i> | |
| Blacksmith Fire, first fire.. . . . | 5 00 |
| Blacksmith Fire, each additional fire.. . . . | 2 50 |
| Boarding House, (in addition to family rates) per room.. . | 1 00 |
| Building Purposes, per bushel of lime; to be paid before work is begun.. . . . | 02 |
| Butcher Stalls.. . . . | 3 00 to 15 00 |
| Charitable Institutions, one-third annual rates. | |
| Cow.. . . . | 75 |
| Condensing Boiler for Steam Heating, (per season of 6 months) per horse power | 25 |
| Eating Houses.. . . . | 5 00 to 25 00 |
| Family.. . . . | 4 00 |
| Fire Protection Fixtures, testing same, thirty (30) minutes or less.. . . . | 3 00 |
| Fire Protection Fixtures, testing same, one (1) hour or less, but more than thirty (30) minutes.. . . . | 5 00 |
| Flushing Sewers, settling earth in ditches or purposes of like nature, per hour, or fractional part of an hour, each.. . . . | 5 00 |
| Gas Engines, five horse power, or less.. . . . | 5 00 |
| Gas Engines, for each additional horse power | 1 00 |
| Gas Engines, when water is used over and over again, from tank prepared for the purpose, one half the above rates | |
| Hand Basins in dwellings, hotels and schools, first basin.. | 1 00 |

| | | |
|---|----------|-------|
| Hand Basins in dwellings, hotels and schools, each additional basin.. . . . | \$ | 50 |
| Hand Basins in offices, stores and blocks, each.. . . . | | 1 00 |
| Hotels, (In addition to family rates) per room.. . . . | | 1 00 |
| Laundry, shop.. . . . | | 5 00 |
| Laundry, wash tub, stationary, each.. . . . | | 2 00 |
| Laundry, revolving washer, each.. . . . | | 5 00 |
| Livery Stable, per horse.. . . . | | 2 00 |
| Offices.. . . . | 3 00 to | 10 00 |
| Private Stable, one or two horses.. . . . | | 2 00 |
| Private Stable, each additional horse over two.. . . . | | 1 00 |
| Printing Offices.. . . . | 5 00 to | 30 00 |
| Public Halls.. . . . | 5 00 to | 25 00 |
| Saloons.. . . . | 5 00 to | 25 00 |
| School, per pupil (In addition to fixtures).. . . . | | 10 |
| Slaughter Houses.. . . . | 5 00 to | 50 00 |
| Sleeping Rooms, each.. . . . | | 1 00 |
| Sprinkling Streets or Lawns with Hose, Per Season: | | |
| Corner lot, 41 feet front or less.. . . . | | 5 00 |
| Inside lot, 41 feet front or less.. . . . | | 3 00 |
| For each additional foot front to either corner, or inside lot.. . . . | | 05 |
| Steam Engines, ten hours per day, each Horse Power .. . | | 2 50 |
| Stores.. . . . | 3 00 to | 15 00 |
| Urinal, private, self-closing, (one family).. . . . | | 2 00 |
| Urinal, private, not self-closing (one family).. . . . | | 6 00 |
| Urinal, public, self-closing.. . . . | | 3 00 |
| Urinal, public, not self-closing.. . . . | | 10 00 |
| Urinal, private or public, continuous flow..... | 10 00 to | 30 00 |
| Wash Tub, stationary, first tub (one family).. . . . | | 2 00 |
| Wash Tub, stationary, each additional tub, (one family).. | | 1 00 |
| Water Closet, pan or tank (one family) private | | 3 00 |
| Water Closet, pan or tank (one family) each additional water Closet.... | | 1 50 |
| Water Closet, pan or tank, public, each.. . . . | | 5 00 |
| Water Closet, hopper, (one family) private, for each water Closet | | 6 00 |
| Water Closet, hopper, public, for each water closet.. . . | | 10 00 |
| Work Shop, ordinary use.. . . . | 3 00 to | 5 00 |

Sprinkling for any purpose will ONLY be allowed on premises where water is taken and paid for, for domestic or other inside use. The sprinkling season is from May 1st to November 1st, in each year.

There is no fractional part of a sprinkling season.

It will cost as much to sprinkle but once at any time during the sprinkling season as it will to sprinkle each day, at the prescribed hours, during the entire season.

Sprinkling must be confined to the hours between 5 and 8 A. M., 12 and 1 P. M. and 5 and 8 P. M., nor during said intervals more than one hour at a time. Persons who exceed one hour may be charged at fountain rates or held liable for violation of the rules, at the option of the Commissioners.

The inside diameter of hose used for sprinkling purposes must not be more than three-quarters of an inch, and the inside diameter of the orifice to the nozzle of the same must not be more than one-quarter of an inch. The use of leaky or defective hose is prohibited.

No person will be allowed to sprinkle adjoining or opposite premises, nor to use the water from any hose attachment, or through any hose

for any purpose not authorized by the Commissioners. All sprinkling devices not held in the hand when used shall be classed as fountains, or fountain jets, and assessed accordingly.

Fountains, fountain jets, etc., will be assessed according to the inside diameter of its principal part or parts, and for a continuous flow during the entire sprinkling season.

Hose must not be used for cleaning streets or street gutters, for washing away collections of leaves, heaps of dirt or offal, or flooding streets.

Sprinkling fixtures, to which hose can be attached, no matter where located on any premises, makes said premises assessable for sprinkling.

All plumbing from the curb line inward must be done by a licensed plumber.

Water fixtures will be assessed for each and every purpose available, and for each family or establishment within the enclosure or separated only by a door, gateway or other means of easy communication.

No abatement of charges shall be allowed for vacancy of premises, except from the date that notice has been given at the office of the Commissioners of Water Works that they are unoccupied.

The Commissioners may limit or stop the supply of water in cases of emergency, and shut it off for repairs or extensions, they being the judges of the time and necessity. Neither the Commissioners nor the city of Erie shall be liable in damages for any insufficient supply of City water.

For each and every violation of the rules and regulations of the Water Works, the offending party will be subject to a fine of not less than Five nor more than Fifty Dollars.

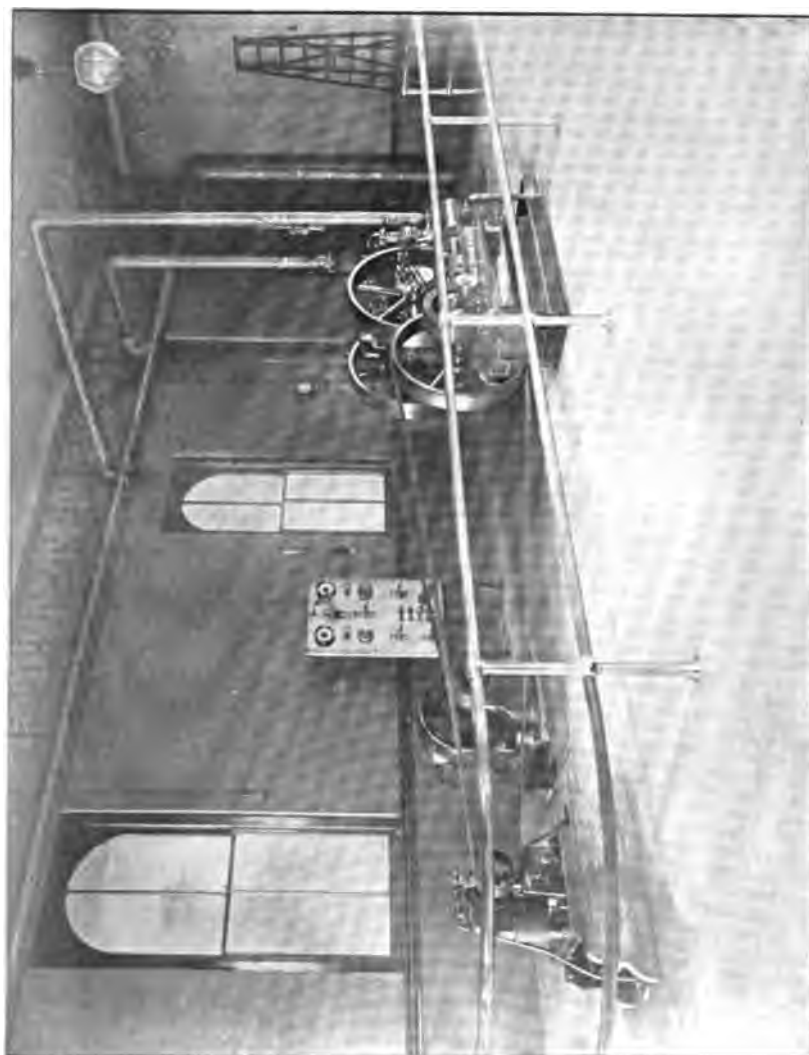
METER RATES.

Twenty (20) cents for each one thousand (1,000) gallons for the first Twenty-five Thousand (25,000) gallons, and Four (4) cents for each one Thousand (1,000) gallons consumed thereafter during each current quarter.

PROVIDED the minimum receipts from each meter shall be as follows:

| | | | |
|---------------------------------|----------|-------------|---------|
| $\frac{3}{4}$ inch or less..... | \$3.75 | 1 inch..... | \$ 4.50 |
| 1 $\frac{1}{4}$ inch | 6.25 | 2 inch..... | 10.00 |
| 3 inch | 18.75 | 4 inch..... | 38.75 |
| 6 inch..... | \$100.00 | | |

TERMS: All water sold by Meter Measurement must be paid for on or before THE 10TH DAY OF THE FIRST MONTH OF EACH QUARTER. All Meter Accounts remaining unpaid at the close of business on the 10th day of said month shall have Five Per Centum Added thereto. On the 15th day of said month, WATER MAY BE TURNED OFF from the property whose meter account is unpaid, and will not be again turned on until all arrearages and penalties are paid, and the further sum of One (\$1.00) Dollar.



ELECTRIC LIGHT ROOM.

WATER WORKS, IN THE CITY OF ERIE.

63

1899. STATEMENT OF WORK DONE BY INSPECTOR NO. 2. 1899.

| MONTH. | TURNED OFF ACCOUNT. | | | TURNED ON ACCOUNT. | | | NEW HOUSES | | | FIXTURES | | | Totals. |
|-----------|---------------------|------------------|-------|--------------------|--------------------|------------|-------------|---------|------------|----------|------------------|-----------|---------|
| | Unpaid. | Leaks and Waste. | Paid. | Occupied. | Building Purposes: | Completed. | Com-plains. | Frozen. | Installed. | Removed. | Leaks and Waste. | Vacancies | |
| January | | | | | 1 | 2 | 1 | | 1 | | | | 5 |
| February | | 1 | | | | | | | 12 | | | | 13 |
| March | | | | | | | | | 2 | | | | 2 |
| April | | 3 | | 2 | | | | | 3 | | | | 8 |
| May | 17 | 1 | 12 | | | | | | 12 | | | | 42 |
| June | | | | | | | | | 1 | | | 105 | 106 |
| July | | | | | | | | | | | | | |
| August | 1 | 5 | | 21 | 2 | 11 | | | 26 | 2 | | 48 | 116 |
| September | | 3 | | 5 | 1 | 4 | | | 10 | 2 | | 127 | 152 |
| October | | 1 | | | | | | | 1 | | | | 2 |
| November | 21 | 1 | | 1 | | | | | 6 | | | | 29 |
| December | | | | 1 | | | | | 5 | | | | 6 |
| Total | 39 | 14 | 12 | 30 | 4 | 17 | 1 | | 79 | 4 | | 280 | 481 |

REPORT OF THE COMMISSIONERS OF

1899. STATEMENT OF WORK DONE BY INSPECTOR NO. 3. 1899.

| MONTH. | TURNED OFF ACCOUNT. | | | TURNED ON ACCOUNT. | | | NEW HOUSES. | | | FIXTURES. | | | | Totals: |
|-----------|---------------------|-----------|------------------|--------------------|-----------|--------------------|-------------|-------------|---------|------------|----------|------------------|-----------|---------|
| | Unpaid. | Vacancies | Leaks and Waste. | Paid. | Occupied. | Building Purposes. | Completed. | Com-plants. | Frozen. | Installed. | Removed: | Leaks and Waste: | Vacancies | |
| January | | 1 | | | 1 | 1 | | 1 | | 13 | | 1 | | 18 |
| February | 3 | | 1 | | | | | | 1 | | | | | 5 |
| March | | | | | | | | | | | | | | |
| April | | 1 | | 1 | 1 | | | | | 4 | | | | 7 |
| May | 15 | | | 11 | | | | | | 20 | | | 58 | 104 |
| June | | | | | | | | | | 2 | | | | 2 |
| July | | | | | | | | | | 6 | | | | 6 |
| August | | | | | | | | | | | | | | |
| September | | | | | | | | | | 1 | | | | 1 |
| October | | | | | | | | | | 5 | | | | 5 |
| November | 2 | 1 | | | 1 | 1 | 1 | | | 22 | | | | 27 |
| December | | | | | | | | | | | | | | |
| Total | 20 | 3 | 1 | 12 | 3 | 1 | 1 | 1 | 1 | 73 | | 1 | 58 | 175 |

1899. Statement of Work Done at Annual Inspection by Inspector No. 3. 1899.

| WARD. | ENGINES. | | | FIXTURES. | | | SPRINKLERS. | | | TUBS. | | WATER CLOSETS. | | | TOTAL | | | |
|--------------|------------|-----|-------|------------|-------------|----------|-------------|-----------------|----------|-------|---------|----------------|-----------|------|-------|------|----------|----------------------|
| | Air Pumps. | Gas | Steam | Draw Cocks | Goose Necks | Hydrants | Hand Basins | Heating Boilers | Premises | Curb | Hydrant | Lawn | Sill Cock | Bath | | Wash | Urinals. | Non-Clos'g or Hopper | Pan or Tank. |
| First..... | 7 | 1 | 7 | 1,601 | 10 | 108 | 373 | 16 1401 | 80 | 30 | 79 | 399 | 335 | 100 | 33 | 10 | 747 | 5,337 |
| Second..... | 22 | 10 | 13 | 2,732 | 13 | 297 | 448 | 23 2193 | 52 | 48 | 80 | 497 | 353 | 53 | 65 | 31 | 1 117 | 8,047 |
| Fifth..... | 6 | 3 | 1 | 1,387 | 4 | 104 | 92 | 20 1207 | 20 | 29 | 85 | 380 | 137 | 12 | 15 | 1 | 335 | 3,837 |
| Seventh..... | | | | 36 | | 2 | | 33 | 1 | 1 | 2 | 6 | 2 | | | | 6 | 92 |
| Total | 35 | 14 | 21 | 5,756 | 27 | 511 | 915 | 59 4834 | 153 | 108 | 246 | 1 282 | 827 | 165 | 113 | 42 | 2,205 | 17,313 |

1899. Statement of Work Done at Annual Inspection by Inspector No. 2. 1899.

| | | | | | | | | | | | | | | | | | | |
|--------------|----|----|----|-------|----|-----|-------|---------|-----|-----|-----|-------|-------|-----|-----|----|-------|--------|
| Third..... | 20 | 8 | 9 | 2,696 | 3 | 217 | 981 | 52,197 | 106 | 46 | 94 | 742 | 760 | 261 | 92 | 23 | 1,826 | 9,843 |
| Fourth..... | 8 | 3 | 4 | 1,620 | 14 | 273 | 784 | 42,153 | 169 | 81 | 112 | 559 | 614 | 301 | 62 | 48 | 1,260 | 7,490 |
| Sixth..... | 6 | 2 | 3 | 1,523 | 11 | 182 | 189 | 7,126 | 24 | 50 | 46 | 429 | 197 | 55 | 27 | | 468 | 4,483 |
| Seventh..... | | | | 22 | | | 4 | | 23 | 3 | | | 4 | 2 | | | | 2 |
| Total..... | 35 | 13 | 16 | 5,861 | 28 | 676 | 1,956 | 101,472 | 302 | 177 | 252 | 1,734 | 1,573 | 617 | 181 | 71 | 3,556 | 21,878 |

Pumping Statistics for 1899.

ENGINES.

| MONTHS. | No. 3. GASKILL 5,000,000 GALLONS | | | | | | No. 4. WORTHINGTON 12,000,000 GAL. | | | | | | No. 5. WORTHINGTON 8 000,000 GALLONS. | | | | | |
|---------------|--|-----------------------|----------|------------------------|-----------------------|-------------|--|-----------------------|----------|------------------------|-----------------------|-------------|---|-----------------------|----------|------------------------|-----------------------|----------|
| | SERVICE. | | | TOTAL. | | | SERVICE. | | | TOTAL. | | | SERVICE. | | | TOTAL. | | |
| | HIGH. Run. Days. | LOW. Run. Days. | Gallons. | HIGH. Run. Days. | LOW. Run. Days. | Gallons. | HIGH. Run. Days. | LOW. Run. Days. | Gallons. | HIGH. Run. Days. | LOW. Run. Days. | Gallons. | HIGH. Run. Days. | LOW. Run. Days. | Gallons. | HIGH. Run. Days. | LOW. Run. Days. | Gallons. |
| January..... | | | | | | | | | | | | | | | | | | |
| February..... | | | | | | | | | | | | | | | | | | |
| March..... | | | | | | | | | | | | | | | | | | |
| April..... | | | | | | | | | | | | | | | | | | |
| May..... | | | | | | | | | | | | | | | | | | |
| June..... | | | | | | | | | | | | | | | | | | |
| July..... | | | | | | | | | | | | | | | | | | |
| August..... | | | | | | | | | | | | | | | | | | |
| September.. | | | | | | | | | | | | | | | | | | |
| October..... | | | | | | | | | | | | | | | | | | |
| November.. | | | | | | | | | | | | | | | | | | |
| December.. | | | | | | | | | | | | | | | | | | |
| Total..... | 66 | 162,124,690 | 32 | 87,415,874 | 98 | 249,540,564 | 241 | 1,632,861,816 | 99 | 305,347,052 | 92 | 534,573,172 | 191 | 839,920,224 | | | | |

Pumping Statistics for 1899.----Continued.

ENGINES.

| MONTHS. | TOTAL. | | | | TOTAL. | | | | DAILY LIFT IN FEET. |
|--------------------|--------------|-------------|--------------|---------------|--------------|---------------|--------------|----------|------------------------------|
| | SERVICE. | | | | SERVICE. | | | | |
| | HIGH. | | LOW. | | HIGH. | | LOW. | | |
| | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | Days Run. | Gallons. | |
| January..... | | | 31 | 222,199,872 | 31 | 222,199,872 | | | 7,167,737 |
| February..... | | | 28 | 235,693,512 | 28 | 235,693,512 | | | 8,417,625 |
| March..... | | | 28 | 187,948,824 | 28 | 187,948,824 | | | 6,062,865 |
| April..... | 25 | 153,749,640 | 5 | 32,725,320 | 30 | 186,474,960 | | | 6,215,832 |
| May..... | | | 32 | 190,723,944 | 32 | 190,723,944 | | | 6,152,385 |
| June..... | | | 28 | 203,437,392 | 28 | 203,437,392 | | | 6,781,246 |
| July..... | 10 | 30,234,600 | 30 | 203,483,208 | 40 | 233,717,808 | | | 7,539,284 |
| August..... | 27 | 68,802,360 | 35 | 214,111,110 | 62 | 282,913,470 | | | 9,126,240 |
| September..... | 9 | 16,285,532 | 57 | 251,805,552 | 66 | 268,091,084 | | | 8,936,369 |
| October..... | 31 | 65,510,640 | 31 | 174,844,944 | 62 | 240,355,584 | | | 7,753,405 |
| November..... | 32 | 57,075,960 | 29 | 158,504,232 | 61 | 215,580,192 | | | 7,186,006 |
| December..... | 31 | 75,813,010 | 31 | 179,372,952 | 62 | 255,185,962 | | | 8,231,805 |
| Total..... | 165 | 467,471,742 | 365 | 2,254,850,862 | 530 | 2,722,322,604 | | | 7,458,418 |
| Daily Average..... | | 2,833,162 | | 6,177,673 | | | | | |

PUMPING STATISTICS.

There are four pumping engines.

Nos. 1 and 2 are Cornish Bull Pumps, erected in 1868; alike in their dimensions, which are as follows: Steam Cylinders, 60 inches in diameter; Pump Plunger, 20 $\frac{1}{4}$ inches in diameter, each 10-foot stroke, capacity being 165 gallons per stroke, pumping 2,000,000 gallons daily. These pumps are out of commission, the cost for repairs being greater than they are worth.

No. 3 is a Gaskill Horizontal Compound Pumping Engine, erected in 1886, having two H. P. Cylinders 21 inches in diameter, two L. P. Cylinders 42 inches in diameter, two pumps 19 $\frac{1}{2}$ inches in diameter, all 36-inch stroke; capacity being 182 gallons per revolution, pumping 5,000,000 gallons daily.

No. 4 is a Worthington Horizontal Compound High Duty Pumping Engine, erected in 1893, having two H. P. Cylinders 33 inches in diameter, two L. P. Cylinders 66 inches in diameter, two pumps 29 inches in diameter, all 49 $\frac{3}{4}$ -inch stroke; capacity being 552 gallons per stroke, pumping 12,000,000 gallons per day, at a piston speed of 128 feet per minute, against a head of 260 feet.

No. 5 is a Worthington Horizontal Compound High Duty Pumping Engine; erected in 1899, having two H. P. Steam Cylinders each 25 inches in diameter; two L. P. Cylinders, each 50 inches in diameter, two double acting water plungers, each 23 inches in diameter, all 36 inches stroke; capacity being 264 gallons per stroke, pumping 8,000,000 gallons per day, at a piston speed of 136 feet per minute, against a total load of 146 pounds per square inch. (a head of 240 feet).

There are two intakes, one constructed in 1868, of which 52 feet is brick 14 ft in diameter, 590 ft is wood 4 $\frac{1}{4}$ ft in diameter and 333 ft is boiler iron 4 ft in diameter, making a total length of 975 feet. The top of the outer end of this intake is four feet below the zero level of the bay, and as it approaches the shore ascends till the top is only two feet above the zero level of the bay. *This intake has not been used since the new one was completed, and as the part made of wood has not been submerged for some time it is undoubtedly past use.* The second intake was completed in 1896. It is made of cast iron 60 inches internal diameter, 8,307.18 feet long, buried in the bottom of the bay; at no place is there less than three feet of earth over its top. The outer end terminates in an octagonal crib, 40 feet being its extreme width and 8 feet high, the top being 13 feet below the zero level of the bay. So far as we know, this is the longest single piece of submerged 60-inch cast iron pipe in the world.

The standpipe was erected in 1868. It is five feet in diameter and 259.65 feet in height. A spiral staircase surrounds it and all enclosed in brick. So far as we know, this the tallest standpipe in the world.

The boiler house was erected in 1897 and is 74 feet wide, 102 feet long, and 25 feet from floor line to bottom of cords to roof. On the north side eight horizontal tubular boilers are installed in batteries of two each. The boilers are 72 inches in diameter, 18 feet long, without domes, and contain eighty 4-inch lap welded tubes, capable of carrying 150 lbs. pressure to the square inch.

On the south side of the house can be erected an equal number of the same size boilers, but until these are required the room is used for storing coal; the bins now in place hold 800 tons of coal.

On the north side of the boiler house, near its east end, is a self-sustaining steel plate chimney, 175 feet high, 75 inches internal diameter, lined with fire-brick to a height of 80 feet.—This chimney was erected in 1897.

The Reservoir was constructed in 1873 and is about two miles distant from the Pumping Station, the bottom of which is 210 feet above the zero level of the water in the bay, and when the water is carried to a depth of 27 feet, holds 32,952,934 gallons of water.

The regular employees at the Pumping Works are one chief engineer, one machinist, two assistant engineers, three greasers, three firemen, one assistant fireman, one watchman and keeper of grounds, and one janitor. The chief engineer stands a watch of five hours, from 7 to 12 every forenoon; the assistants divide the remainder of each day equally between them.



PUMPING STATISTICS.

There are four pumping engines.

Nos. 1 and 2 are Cornish Bull Pumps, erected in 1868; alike in their dimensions, which are as follows: Steam Cylinders, 60 inches in diameter; Pump Plunger, 20 $\frac{1}{4}$ inches in diameter, each 10-foot stroke, capacity being 165 gallons per stroke, pumping 2,000,000 gallons daily. These pumps are out of commission, the cost for repairs being greater than they are worth.

No. 3 is a Gaskill Horizontal Compound Pumping Engine, erected in 1886, having two H. P. Cylinders 21 inches in diameter, two L. P. Cylinders 42 inches in diameter, two pumps 19 $\frac{1}{2}$ inches in diameter, all 36-inch stroke; capacity being 182 gallons per revolution, pumping 5,000,000 gallons daily.

No. 4 is a Worthington Horizontal Compound High Duty Pumping Engine, erected in 1893, having two H. P. Cylinders 33 inches in diameter, two L. P. Cylinders 66 inches in diameter, two pumps 29 inches in diameter, all 49 $\frac{1}{4}$ -inch stroke; capacity being 552 gallons per stroke, pumping 12,000,000 gallons per day, at a piston speed of 128 feet per minute, against a head of 260 feet.

No. 5 is a Worthington Horizontal Compound High Duty Pumping Engine; erected in 1899, having two H. P. Steam Cylinders each 25 inches in diameter; two L. P. Cylinders, each 50 inches in diameter, two double acting water plungers, each 23 inches in diameter, all 36 inches stroke; capacity being 264 gallons per stroke, pumping 8,000,000 gallons per day, at a piston speed of 136 feet per minute, against a total load of 146 pounds per square inch. (a head of 240 feet).

There are two intakes, one constructed in 1868, of which 52 feet is brick 14 ft in diameter, 590 ft is wood 4 $\frac{1}{4}$ ft in diameter and 333 ft is boiler iron 4 ft in diameter, making a total length of 975 feet. The top of the outer end of this intake is four feet below the zero level of the bay, and as it approaches the shore ascends till the top is only two feet above the zero level of the bay. *This intake has not been used since the new one was completed, and as the part made of wood has not been submerged for some time it is undoubtedly past use.* The second intake was completed in 1896. It is made of cast iron 60 inches internal diameter, 8,307.18 feet long, buried in the bottom of the bay; at no place is there less than three feet of earth over its top. The outer end terminates in an octagonal crib, 40 feet being its extreme width and 8 feet high, the top being 13 feet below the zero level of the bay. So far as we know, this is the longest single piece of submerged 60-inch cast iron pipe in the world.

The standpipe was erected in 1868. It is five feet in diameter and 259.65 feet in height. A spiral staircase surrounds it and all enclosed in brick. So far as we know, this the the tallest standpipe in the world.

The boiler house was erected in 1897 and is 74 feet wide, 102 feet long, and 25 feet from floor line to bottom of cords to roof. On the north side eight horizontal tubular boilers are installed in batteries of two each. The boilers are 72 inches in diameter, 18 feet long, without domes, and contain eighty 4-inch lap welded tubes, capable of carrying 150 lbs. pressure to the square inch.

On the south side of the house can be erected an equal number of the same size boilers, but until these are required the room is used for storing coal; the bins now in place hold 800 tons of coal.

On the north side of the boiler house, near its east end, is a self-sustaining steel plate chimney, 175 feet high, 75 inches internal diameter, lined with fire-brick to a height of 80 feet.—This chimney was erected in 1897.

The Reservoir was constructed in 1873 and is about two miles distant from the Pumping Station, the bottom of which is 210 feet above the zero level of the water in the bay, and when the water is carried to a depth of 27 feet, holds 32,952,934 gallons of water.

The regular employees at the Pumping Works are one chief engineer, one machinist, two assistant engineers, three greasers, three firemen, one assistant fireman, one watchman and keeper of grounds, and one janitor. The chief engineer stands a watch of five hours, from 7 to 12 every forenoon; the assistants divide the remainder of each day equally between them.



FIRE HYDRANTS PLACED IN 1899.

| STREET. | LOCATION. | SIZE. | STYLE. | REMARKS. |
|---------------|--|--------|------------|------------------------------|
| Second | N. W. Corner Holland | 6-inch | Matthews | In place of West Jersey. |
| Ninth | N. W. Corner Liberty | 6-inch | " | " |
| " | 177 feet East of Cranberry | 6-inch | " | " |
| " | N. E. Corner Raspberry | 6-inch | " | " |
| " | N. E. Corner Cherry | 6-inch | " | " |
| Twelfth | N. E. Corner of Liberty | 6-inch | " | In place of 4-inch Matthews. |
| " | N. E. Corner Plum | 6-inch | " | " |
| " | 313 feet East of Cascade | 4-inch | " | " |
| " | N. E. Corner Cascade | 6-inch | " | In place of 4-inch Matthews. |
| " | 331 ⁶ feet West of Cascade | 4-inch | " | " |
| " | N. E. Corner Raspberry | 6-inch | " | In place of 4-inch Matthews. |
| Thirteenth | N. W. Corner Wallace | 4-inch | " | In place of 4-inch Matthews. |
| Fourteenth | 242 ¹⁰ feet West of Holland | 4-inch | " | In place of Bay State. |
| Nineteenth | 265 feet East of Cascade | 4-inch | " | 4-inch Matthews taken out. |
| Twenty-third | 338 feet East of Wayne | 4-inch | " | " |
| Twenty-fourth | 1487 feet West of Perry | 4-inch | " | 4-inch Matthews taken out. |
| " | N. W. Corner Ash | 4-inch | " | " |
| " | N. W. Corner Reed | 4-inch | " | " |
| " | N. E. Corner Chestnut | 6-inch | " | " |
| " | N. E. Corner Perry | 4-inch | " | " |
| Tw'y- seventh | 228 ¹ feet West of Raspberry | 6-inch | " | " |
| Thirty-second | N. E. Corner Hazel | 6-inch | " | " |
| Payne Avenue | N. E. Corner Eighth | 6-inch | " | " |
| Wayne | 98 feet North of Eighth | 6-inch | " | " |
| Ash | N. E. Corner Twenty-seventh | 6-inch | " | " |
| Wallace | S. E. Corner Twenty-sixth | 6-inch | " | " |
| Holland | S. E. Corner Fourth | 6-inch | " | In place of Pittsburgh. |
| French | S. E. Corner Twenty-Fourth | 6-inch | " | In place of West Jersey. |
| Poplar | 97 feet North of Third | 4-inch | Bay State. | " |
| " | 468 feet North of Sixteenth | 6-inch | Matthews | " |
| Plum | S. E. Corner of Twenty-fifth | 4-inch | " | " |
| " | N. E. Corner Twenty-third | 6-inch | " | In place of Bay State. |
| Cascade | N. E. Corner Twentieth | 6-inch | " | " |
| Raspberry | S. E. Corner Sixteenth | 6-inch | " | " |
| " | N. E. Corner Brown Avenue | 6-inch | " | " |
| " | 163 ⁴ feet South of Twenty-second | 6-inch | " | 4-inch Bay State taken out. |
| Lake Road | 234 ⁴ feet West of Payne Avenue | 6-inch | " | " |
| " | 180 ⁵ feet West of Cranberry | 6-inch | " | " |

**SUMMARY OF FIRE
HYDRANTS PLACED AND REMOVED IN 1899.**

| | PLACED. | SIZE. | NUMBER. | |
|------------------|----------------------------------|---------|---------|-----------|
| STYLE— | | | | |
| Matthews..... | | 4-inch. | 9 | |
| Matthews..... | | 6-inch. | 25 | |
| Bay State..... | | 4-inch. | 1 | |
| | | | <hr/> | 35 |
| | REMOVED. | | | |
| STYLE— | | | | |
| Matthews..... | | 4-inch. | 5 | |
| West Jersey..... | | 4-inch. | 2 | |
| Bay State..... | | 4-inch. | 3 | |
| Pittsburgh..... | | 4-inch. | 1 | |
| | | | <hr/> | 11 |
| | Net increase..... | | | <hr/> 24 |
| | Number in use Dec. 31, 1898..... | | | 543 |
| | Total in use Dec. 31, 1899..... | | | <hr/> 567 |

Main Pipe Laid in 1899.

| LOCATION. | SIZES. | | | | | | | | REMARKS. |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| | 1 in | 1½ in. | 2 in. | 4 in. | 6 in. | 12 in. | 20 in. | 24 in. | |
| | Feet. in. | Feet. in. | Feet. in. | Feet. in. | Feet. in. | Feet. in. | Feet. in. | Feet. in. | |
| Second St., from west of Plum eastward..... | | | | 27 | | | | | |
| Second St., from Parade eastward..... | | | | 416 | | | | | |
| Second St., N. W. cor. Holland..... | | | 6 | 2 | | 12 | 3 | | Hyd. B. place of 9 ft. 4-in. hyd. b. |
| Third St., 272.7 ft. east of Sassafras..... | | | | | | | | | Blow-off for 20-in. m. Place of 1,937.6 ft. 4-in. |
| Third St., from Holland to Sassafras..... | | | | | | 2200 | 3 | | Place of 262.9 ft. 6-in. Place of 237 ft. ¾-in. |
| Fourth St., from Wallace westward..... | | | | | | | | 87 | |
| Fourth St., bet. German and Parade..... | 478 | 3 | | | | | | | |
| Fifth St., bet. Reed and Wayne..... | | | | 6 | 4 | | | 25 | |
| Fifth St., 393.6 ft. east of Reed..... | | | | | | | | 416 | Hyd. B. 6¼ ft. 4-in H. R., taken out 272.6 ft. east of Reed. |
| Lake Road, from Hess avenue eastward..... | | | | | | | | 36 | Hydrant Branch. |
| Lake Road, bet. East and Penn avenue..... | | | | | | | | 9 | |
| Lake Road, 280 ft. east of city line..... | | | | | | | | 127 | |
| Elighth St., bet. Hess and Payne avenue..... | | | | | | | | 1844 | |
| Lake Road, from Cranberry westward..... | | | | | | | | 176 | |
| Ninth St., from Liberty westward..... | | | | | | | | 5 | Hydrant Branch. |
| Ninth St., N. W. cor. Liberty..... | | | | | | | | 6 | |
| Tenth St., from Raspberry westward..... | | | | | | | | 522 | |
| Tenth St., 177 ft. east of Cranberry..... | | | | | | | | 5 | Hydrant Branch. |
| Tenth St., bet. Cascade and Raspberry..... | | | | | | | | 249 | |
| Tenth St., N. E. cor. Raspberry..... | | | | | | | | 6 | Hydrant Branch. |
| Tenth St., N. E. cor. Cherry..... | | | | | | | | 9 | Hydrant Branch. |
| Twelfth St., N. E. cor. Liberty..... | | | | | | | | 13 | Hyd. B. place of 13.10 4-in hyd. b. |
| Twelfth St., N. E. cor. Plum..... | | | | | | | | 13 | Hydrant Branch. |
| Twelfth St., 313 ft. east of Cascade..... | | | | | | | | 13 | Hydrant Branch. |
| Twelfth St., N. E. cor. Cascade..... | | | | | | | | 13 | Hyd. B. place of 13.8 ft. 4-in. hyd. b. |

| | | | |
|--|-------|-------|--------------------------|
| Twelfth St., 331 ft. west of Cascade..... | 13 3 | ..... | Hydrant Branch. |
| Twelfth St., from Poplar to Cranberry..... | 267 8 | ..... | In place of 6-inch. |
| Twelfth St., N. E. cor. Raspberry..... | 13 6 | ..... | Hyd. B. place of 13 ft. |
|  |  | ..... | 4-in. hyd. b. |
| Thirteenth St., from main on Holland west'd. | 39 | ..... | In place of 39 ft. 4-in |
| Fourteenth St., from west of Holland east'd. | 315 | ..... |  |
| Nineteenth St., intersection of Cherry..... | 27 8 | ..... | 18 |
| Nineteenth St., from Cascade eastward..... | 286 | ..... |  |
| Nineteenth St., 265 ft. east of Cascade..... | 9 | ..... | Hydrant Branch. |
| Brown Ave., from Raspberry to Cranberry..... | 794 | ..... |  |
| Twenty-first St., bet. Rasp. and Cranberry..... | 36 | * 8 8 | *Hydrant Branch. |
| Twenty-second St., from Perry to East ave. | 758 8 | ..... |  |
| Twenty-third St., from Wayne eastward..... | 356 | ..... |  |
| Twenty-third St., 338 ft. east of Wayne..... | 11 | ..... | Hydrant Branch. |
| Twenty-fourth St., N. W. cor. Ash..... | 9 | ..... | Hydrant Branch. |
| Twenty-fourth St., N. W. cor. Reed..... | 9 | ..... | Hydrant Branch. |
| Twenty-fourth St., N. E. cor. Chestnut..... | 10 10 | ..... | Hydrant Branch. |
| Twenty-fourth St., N. E. cor. Perry..... | 9 4 | ..... | Hydrant Branch. |
| Twenty-fourth St., from west of Perry east'd. | 645 | ..... |  |
| Twenty-fifth St., from German eastward..... | 138 | ..... |  |
| Twenty-fifth St., 115 ft. east of Germ. east'd. | 171 | ..... |  |
| Twenty-sixth St., bet. Wallace and Ash..... | 286 | ..... |  |
| Twenty-seventh St., from Raspberry west'd. | 267 4 | ..... |  |
| Twenty-ninth St., from Cherry to Maple..... | 205 | ..... |  |
| Thirty-second St., from Maple to Hazel..... | 290 | ..... |  |
| Thirty-second St., N. E. cor. Hazel..... | 8 8 | ..... | Hydrant Branch. |
| East Ave., from Buffalo road northward..... | 115 2 | ..... |  |
| Wayne St., from Seventh southward..... | 271 | ..... |  |
| Wayne St., 98 ft. north of Elighth..... | 3 6 | ..... | Hydrant Branch. |
| Ash St., N. E. cor. Twenty-seventh..... | 9 7 | ..... | Hydrant Branch. |
| Wallace St., bet. Twentieth and Twenty-first. | 72 6 | ..... |  |
| Wallace St., from 224 ft. north of Fifth n'th'd. | 313 6 | ..... |  |
| Cedar St., from Elighth northward..... | 146 | ..... |  |
| Holland St., S. E. cor. Eleventh..... | 10 | ..... | Hyd. B. place of 9 ft. |
|  |  | ..... | 4-in. hyd. b. |
| Holland St., N. E. cor. Fourteenth..... | 8 | ..... | Hyd.B. place of 12.2 ft. |
|  |  | ..... | 4-in. hyd. b. |

Main Pipe Laid in 1899, Continued.

| LOCATION. | SIZES. | | | | | | | REMARKS. |
|---|----------|----------|----------|----------|----------|----------|---------------|-------------------------|
| | 1 in | 1½ in. | 2 in. | 4 in. | 6 in | 12 in. | 20 in. 24 in. | |
| | Feet in. | Feet in. | Feet in. | Feet in. | Feet in. | Feet in. | Feet in. | |
| Holland St., from Eleventh southward..... | | | | | | | | In place of 4-inch. |
| Holland St., from Twenty-eighth southward..... | | | | | 1164 | ..... | ..... | Hydrant Branch. |
| Holland St., from Second northward..... | | | | | 97 7 | 560 | ..... | In place of 4-inch. |
| French St., S. E. cor. Twenty-fourth..... | | | | | 9 6 | ..... | ..... |  |
| State St., from Hill road southward..... | 140 1 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Sassafras St., bet. 24th and 25th..... | | | | 92 | ..... | ..... | ..... |  |
| Cherry St., from Nineteenth to Twenty-sixth..... | | | | | | | 2333 | Blow-off for 24-in. m. |
| Cherry St., intersection of Twenty-sixth..... | | | 38 5 | ..... | ..... | ..... | ..... | Hydrant Branch. |
| Poplar St., bet. Second and Third..... | | | | | 48 | ..... | ..... | Hydrant Branch. |
| Poplar St., 97 ft. north of Third..... | | | | | 9 6 | ..... | ..... |  |
| Poplar St., 468 ft. north of Sixteenth..... | | | | | | | | |
| Poplar St., bet. 22nd and 23rd..... | | | | | 193 | ..... | ..... |  |
| Poplar St., between Fourth and Fifth..... | | | | | 104 | ..... | ..... |  |
| Liberty St., bet. Seventh and Eighth..... | | | | | 103 6 | ..... | ..... |  |
| Plum St., from Second southward..... | | | | 170 6 | ..... | ..... | ..... |  |
| Plum St., from Twenty-sixth to Twenty-fifth..... | | | | | 316 | ..... | ..... | Hyd. B. place of 9 ft. |
| Plum St., N. E. cor. Twenty-third..... | | | | | 9 6 | ..... | ..... | 4-in. hyd. b. |
| Cascade St., N. E. cor. Twentieth..... | | | | | 9 7 | ..... | ..... | Hydrant Branch. |
| Raspberry St., S. E. cor. Sixteenth..... | | | | | 8 4 | ..... | ..... | Hydrant Branch. |
| Raspberry St., bet. 22nd and Brown ave..... | | | | | 115 8 | ..... | ..... |  |
| Raspberry St., intersection of Twenty-fourth..... | | | | | 43 6 | ..... | ..... |  |
| Hazel St., from Thirty-second southward..... | | | | | 110 | ..... | ..... |  |
| Hess Ave., from Eighth to Lake road..... | | | | | 1118 | ..... | ..... | 15-ft. 2-in. abandoned. |
| Payne Ave., bet. Eighth and Tenth..... | | | | | 505 | ..... | ..... | Hydrant Branch. |
| Payne Ave., N. E. cor. Eighth..... | | | | | 8 6 | ..... | ..... |  |

Total 140 478 3 44 7 758 10 13156 2855 4 2200 3 2351



WORTHINGTON 8,000,000 GALLON, HORIZONTAL, COMPOUND, HIGH DUTY PUMPING ENGINE,
STEAM CYLINDERS.

Summary of Main Pipe Laid and Removed in 1899.

| PIPE LAID— | | Feet. | Inches. |
|--------------------------|--------|----------------|----------|
| 1-inch..... | 140 | | |
| 1½ "..... | 478 | 3 | |
| 2 "..... | 44 | 7 | |
| 4 "..... | 758 | 10 | |
| 6 "..... | 13,156 | | |
| 12 "..... | 2,855 | 4 | |
| 20 "..... | 2,200 | 3 | |
| 24 "..... | 2,351 | | |
| | | Total, 21,984 | 3 |
| PIPE REMOVED— | | | |
| ¾-inch..... | 237 | | |
| 2 "..... | 15 | | |
| 4 "..... | 3,786 | 6 | |
| 6 "..... | 2,530 | 5 | |
| | | Total, 6,568 | 11 |
| | | Net total..... | 15,415 4 |
| | | Or 2 miles | 4,855 4 |
| Previously reported..... | | 100 miles | 3,849 5 |
| Grand total | | 103 miles | 3,424 9 |

CROSSES PLACED IN 1899.

| SIZE. | NUMBER. |
|------------------------|---------|
| 4 x 4-inch.. | 1 |
| 6 x 6-inch.. | 17 |
| 12 x 6-inch.. | 6 |
| 12 x 12-inch.. | 1 |
| 20 x 6-inch.. | 2 |
| 20 x 12-inch.. | 2 |
| 24 x 12-inch.. | 1— 30 |

CROSSES REMOVED IN 1899.

| SIZE. | NUMBER. |
|------------------------|---------|
| 4 x 4-inch.. | 6 |
| 6 x 4-inch.. | 5 |
| 6 x 6-inch.. | 3— 14 |
| Net Increase.. | 16 |

TEES PLACED IN 1899

| SIZE. | NUMBER. |
|------------------------|---------|
| 4 x 4-inch.. | 1 |
| 6 x 4-inch.. | 1 |
| 6 x 6-inch.. | 19 |
| 12 x 6-inch.. | 8 |
| 20 x 6-inch.. | 1 |
| 24 x 12-inch.. | 1— 31 |

TEES REMOVED IN 1899.

| SIZE. | NUMBER. |
|------------------------|---------|
| 4 x 3-inch.. | 1 |
| 4 x 4-inch.. | 3 |
| 6 x 4-inch.. | 5— 9 |
| Net Increase.. | 22 |

Stop Valves Placed in 1899.

| Street. | Where Located. | Size. | Style. | Remarks. |
|---------------------|---|-------|--------|---|
| | | | Eddy. | |
| Second..... | West line of Plum..... | 4 | " | |
| "..... | West line of Holland..... | 4 | " | |
| "..... | East line of Parade..... | 4 | " | |
| Third..... | East line of State..... | 20 | " | |
| "..... | { 272 ⁷ ft. E. line of Sass. } | 2 | Hays. | { On Blow Off for 20 in Main. Taken out, 4 in Lud- low W. line of Sass. Taken out, 4 in. Ed- dy E. line of Sass. |
| "..... | { 22 ⁸ ft. S of N line of 3d } | | | |
| Fourth..... | West line of Wallace..... | 6 | Eddy. | |
| "..... | East line of German..... | 6 | " | |
| Lake Road..... | East line of Hess Ave..... | 6 | " | |
| Eighth..... | West line of Chestnut..... | 4 | " | { In Place of Old 4 inch Eddy. |
| "..... | East line of Walnut..... | 4 | " | |
| "..... | West line of Cranberry..... | 6 | " | |
| Ninth..... | West line of Liberty..... | 6 | " | |
| Tenth..... | West line of Raspberry..... | 6 | " | |
| Eleventh..... | West line of Holland..... | 4 | " | |
| Twelfth..... | West line of Holland..... | 6 | " | |
| "..... | West line of Liberty..... | 12 | " | { In Place of 6 inch Eddy. |
| "..... | West line of Poplar..... | 12 | " | |
| "..... | West line of Plum..... | 12 | " | |
| "..... | West line of Cascade..... | 12 | " | In Place of 6 in. Eddy. |
| Thirteenth..... | West line of Holland..... | 6 | " | In Place of 4 in. Eddy. |
| Fourteenth..... | West line of Holland..... | 6 | " | |
| "..... | East line of Holland..... | 6 | " | |
| Buffalo Road..... | South line of 19th..... | 4 | " | |
| Nineteenth..... | West line of Cherry..... | 12 | " | |
| "..... | East line of Cascade..... | 6 | " | |
| Brown Avenue..... | West line of Raspberry..... | 6 | " | |
| "..... | East line of Cranberry..... | 6 | " | |
| Twenty-second..... | West line of East Ave..... | 6 | " | |
| "..... | East line of Perry..... | 6 | " | |
| "..... | West line of Perry..... | 6 | " | |
| Twenty-third..... | East line of Wayne..... | 6 | " | { In Place of 4 in. Abandoned; East line of Chestnut. |
| Twenty-fourth..... | 2 ⁴ ft. East of Chestnut..... | 4 | " | |
| "..... | West line of Perry..... | 6 | " | |
| "..... | East line of Perry..... | 6 | " | |
| Twenty-fifth..... | East line of German..... | 6 | " | |
| Twenty-sixth..... | East line of Wallace..... | 6 | " | |
| "..... | West line of Cherry..... | 12 | " | |
| Twenty-seventh..... | West line of Raspberry..... | 6 | " | |
| Twenty-ninth..... | West line of Cherry..... | 6 | " | |
| Thirty-second..... | West line of Maple..... | 6 | " | |
| Payne Avenue..... | South line of 8th..... | 6 | " | |
| Hess Avenue..... | South line of 6th..... | 6 | " | |
| East Avenue..... | North line of Buffalo R..... | 6 | " | |
| Wayne..... | South line of 7th..... | 6 | " | |
| Wallace..... | North line of 4th..... | 6 | " | |
| Parade..... | South line of 19th..... | 6 | " | |
| Holland..... | South line of 19th..... | 4 | " | |
| "..... | North line of 12th..... | 6 | " | In Place of 4 in. Eddy. |
| "..... | South line of 12th..... | 6 | " | In Place of 4 in. Eddy. |
| "..... | North line of 14th..... | 6 | " | |
| "..... | South line of 14th..... | 6 | " | In Place of 4 in. Eddy. |

Stop Valves Placed in 1899.---Continued.

| Street. | Where Located. | Size. | Style. | Remarks. |
|-----------|---|-------|--------|--|
| " | South line of 28th | 6 | " | { Taken Out, 4 in. Eddy, North line of 2nd |
| " | 432 ³ ft. North of 2nd | 12 | " | |
| French | South line of 19th | 6 | " | |
| French | North line of 3rd | 4 | Eddy. | |
| " | South line of 3rd | 4 | " | { On Blow off for 24 in. Main. |
| State | South line of 19th | 6 | " | |
| " | South line of 3rd | 4 | " | |
| " | North line of 3rd | 6 | " | |
| " | South line of 3rd | 6 | " | |
| Peach | 9 ² ft. South of 19th | 6 | " | |
| " | North line of 3rd | 4 | " | |
| " | South line of 3rd | 4 | " | |
| Sassafras | South line of 19th | 4 | " | |
| " | 48 ft. South of 24th | 4 | " | |
| " | 14 ft. E of W. line of Sas. | " | " | { On Blow off for 24 in. Main. |
| " | 48 ft. South of 24th | 4 | " | |
| " | 1 ft. E of W line of Sass. | " | " | |
| Chestnut | 16 ⁹ ft. N of S line of 17th | 4 | " | |
| " | 23 ft. W of E line of Chest | " | " | |
| " | 625 ft. South of 12th | 4 | " | |
| " | North line of 18th | 4 | " | |
| Cherry | 24 ⁸ ft. N of S line of 26th | 2 | Hays. | |
| " | 22 ft. E of W line of Ch'y | " | " | |
| " | 14 ft. W of E line of Ch'y | 2 | " | |
| " | 12 ft. N of S line of 26th | " | " | |
| Poplar | South line of 19th | 6 | Eddy. | { On Blow off for 24 in. Main. |
| Plum | North line of 26th | 6 | " | |
| Cascade | South line of 19th | 6 | " | |
| Raspberry | North line of Brown Ave. | 6 | " | |
| Cranberry | South line of 24th | 6 | " | |

Summary of Stop Valves Placed and Removed in 1899

| STYLE— | PLACED. | SIZE. | NUMBER. |
|----------------|-----------------------|---------|---------|
| Hays..... | | 2-inch | 3 |
| Eddy..... | | 4-inch | 20 |
| Eddy..... | | 6-inch | 45 |
| Eddy..... | | 12-inch | 7 |
| Eddy..... | | 20-inch | 1 |
| Total..... | | — | 76 |
| | REMOVED AND ABANDONED | | |
| Eddy..... | | 4-inch | 7 |
| Eddy..... | | 6-inch | 2 |
| Ludlow..... | | 4-inch | 3 |
| Ludlow..... | | 4-inch | 1 |
| | | — | 1 |
| Net increase.. | | .. | 63 |

Statement of Connections Made to December 31, 1899.

| WARD. | IN PAVED STREETS NOT IN USE. | | | | | IN USE. | | | | | | | | | | TOTAL. | | | | | | | | | |
|----------|---------------------------------|-----|-----|-----|-------|-----------------|-----|-----|-----|-----|-----|-----|-----|-------|-------|-----------------|-----|-----|-----|-----|----|-----|-------|------|-------|
| | INCHES IN SIZE. | | | | | INCHES IN SIZE. | | | | | | | | | | INCHES IN SIZE. | | | | | | | | | |
| | 3 | 1 | 1½ | 4 | TOTAL | 3 | 1 | 1½ | 2 | 2½ | 3 | 4 | 6 | TOTAL | 3 | 1 | 1½ | 2 | 2½ | 3 | 4 | 6 | TOTAL | | |
| First. | 103 | ... | ... | ... | 103 | 1419 | 20 | ... | 10 | 11 | ... | 16 | ... | 1476 | 1522 | 20 | ... | 10 | 11 | ... | 16 | ... | 1579 | | |
| Second. | 240 | 1 | 1 | 1 | 243 | 2119 | 16 | ... | 27 | 17 | ... | 40 | 11 | 2330 | 2359 | 17 | ... | 28 | 17 | ... | 41 | 11 | 2473 | | |
| Third. | 383 | 2 | ... | ... | 385 | 1902 | 33 | ... | 24 | 25 | 1 | ... | 25 | 4 | 2014 | 2285 | 35 | ... | 24 | 25 | 1 | ... | 25 | 4 | 2399 |
| Fourth. | 200 | 1 | ... | ... | 201 | 1615 | 29 | 3 | 18 | 26 | ... | 14 | ... | 1705 | 1815 | 30 | 3 | 18 | 26 | ... | 14 | ... | 1906 | | |
| Fifth. | 52 | ... | ... | ... | 52 | 1198 | 11 | 1 | 11 | 11 | ... | 4 | ... | 1236 | 1250 | 11 | 1 | 11 | 11 | ... | 4 | ... | 1288 | | |
| Sixth. | 69 | 2 | 3 | ... | 74 | 1320 | 17 | ... | 10 | 9 | 1 | 5 | ... | 1362 | 1389 | 19 | ... | 10 | 9 | ... | 1 | 8 | ... | 1436 | |
| Seventh. | ... | ... | ... | ... | ... | 58 | 5 | 1 | 8 | 4 | 1 | 3 | 2 | 82 | 58 | 5 | 1 | 8 | 4 | ... | 1 | 3 | 2 | 82 | |
| Total. | 1047 | 6 | 1 | 4 | 1058 | 9631 | 131 | 5 | 108 | 103 | 1 | 2 | 107 | 17 | 10105 | 10678 | 137 | 5 | 109 | 103 | 1 | 2 | 111 | 17 | 11163 |

Total number reported in 1898..... 10815

Total number made in 1899..... 368

Removed and abandoned in 1899..... 20

Net increase in 1899..... 348

Total number in 1899..... 11163

Statement of Meters December 31, 1899.

| KIND. | IN USE. | | | | | | | | NOT IN USE. | | | | | | | | TOTAL. | | | | | | | | | | |
|-------------------|-----------------|----|----|----|----|----|----|-----|-------------|-----------------|----|----|----|---|---|---|--------|--------|-----------------|----|----|----|----|----|-----|---|--------|
| | Size in Inches. | | | | | | | | Total. | Size in Inches. | | | | | | | | Total. | Size in Inches. | | | | | | | | Total. |
| | 8 | 3 | 1 | 1½ | 2 | 3 | 4 | 6 | | 8 | 3 | 1 | 1½ | 2 | 3 | 4 | 6 | | 8 | 3 | 1 | 1½ | 2 | 3 | 4 | 6 | |
| Crown | 1 | 5 | 2 | | 8 | 1 | 2 | 19 | | | | | | | | | 1 | 1 | 5 | 2 | | 9 | 1 | 2 | 20 | | |
| Columbia | 6 | 7 | | | | | | 13 | 11 | 10 | | | | | | | 21 | 17 | 17 | | | | | | 34 | | |
| Empire | | | 2 | | 3 | | | 5 | | | | | | | | | | | | 2 | | 3 | | | 5 | | |
| Gem | | | | 3 | | | | 3 | | | | | | | | | | | | | | 3 | | | 3 | | |
| Lambert | | 1 | | | | | | 1 | | | | | | | | | | | 1 | | | | | | 1 | | |
| National | | | 1 | | | | | 1 | | | | | | | | | | | | | 1 | | | | 1 | | |
| Pitts. Disc | 1 | 1 | | | | | | 2 | | | | 1 | | | | | 1 | 1 | 1 | | | | | | 3 | | |
| Thomson | 3 | 5 | 4 | 3 | 5 | 1 | 4 | 25 | | | 1 | | | | | | 2 | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 | | |
| Union | 4 | 56 | 11 | 15 | 21 | 8 | 9 | 125 | | 2 | 7 | 9 | 1 | 7 | | 1 | 27 | 6 | 63 | 20 | 16 | 28 | 8 | 10 | 152 | | |
| Worthington | | 3 | 7 | 5 | 1 | 1 | | 17 | | 1 | 2 | | | | | | 3 | | 4 | 9 | 5 | 1 | 1 | | 20 | | |
| Total | 15 | 78 | 26 | 24 | 41 | 11 | 15 | 211 | | 13 | 19 | 12 | 2 | 8 | | 1 | 55 | 28 | 97 | 38 | 26 | 49 | 11 | 16 | 266 | | |

| KIND. | GOOD. | | | | | | | | POOR. | | | | | | | | TOTAL. | | | | | | | | | | |
|-------------------|-----------------|----|----|----|----|----|----|-----|--------|-----------------|---|---|----|---|---|---|--------|--------|-----------------|----|----|----|----|----|-----|---|--------|
| | Size in Inches. | | | | | | | | Total. | Size in Inches. | | | | | | | | Total. | Size in Inches. | | | | | | | | Total. |
| | 8 | 3 | 1 | 1½ | 2 | 3 | 4 | 6 | | 8 | 3 | 1 | 1½ | 2 | 3 | 4 | 6 | | 8 | 3 | 1 | 1½ | 2 | 3 | 4 | 6 | |
| Crown | 1 | 5 | 2 | | 8 | 1 | 2 | 19 | | | | | | | | | 1 | 1 | 5 | 2 | | 9 | 1 | 2 | 20 | | |
| Columbia | 16 | 17 | | | | | | 33 | 1 | | | | | | | | 1 | 17 | 17 | | | | | | 34 | | |
| Empire | | | 2 | | 3 | | | 5 | | | | | | | | | | | | 2 | | 3 | | | 5 | | |
| Gem | | | | 3 | | | | 3 | | | | | | | | | | | | | | 3 | | | 3 | | |
| Lambert | | 1 | | | | | | 1 | | | | | | | | | | | 1 | | | | | | 1 | | |
| National | | | 1 | | | | | 1 | | | | | | | | | | | | | 1 | | | | 1 | | |
| Pitts. Disc | 1 | 1 | | | | | | 3 | | | | | | | | | | 1 | 1 | 1 | | | | | 3 | | |
| Thomson | 3 | 5 | 4 | 3 | 5 | 1 | 4 | 25 | | | | | | | | | 2 | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 | | |
| Union | 6 | 63 | 20 | 16 | 28 | 8 | 9 | 151 | | | | | | | | | 1 | 6 | 63 | 20 | 16 | 28 | 8 | 10 | 152 | | |
| Worthington | | 4 | 9 | 5 | 1 | 1 | | 20 | | | | | | | | | | | | 4 | 9 | 5 | 1 | 1 | 20 | | |
| Total | 27 | 96 | 38 | 25 | 48 | 11 | 16 | 261 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5 | 28 | 97 | 38 | 26 | 49 | 11 | 16 | 266 | | |

Comparative Statement of Water Rates in Twenty-Seven Cities in the United States.

54

REPORT OF THE COMMISSIONERS OF

| CITY, | NAME. | Population. | WATER WORKS SYSTEM. | METER. | | | | RATES. | | | TOTALS. | |
|----------------------|-------|---------------|----------------------|--------|----------|--------------|-------------|-------------|---------------|-------------|--------------|--|
| | | | | Flat. | Lowest. | Highest. | Family. | Bath. | Water Closet. | Sprinkling. | | |
| Albany, N. Y. | | 100,000 | Gravity and Pumping | 8 | ..... | ..... | \$18 00 | \$ 3 00 | \$ 2 00 | ..... | \$20 00 | |
| Allegheny, Penna. | | 125,000 | Pumping, | 10 | ..... | ..... | 16 25 | ..... | 9 00 | \$ 5 50 | 33 75 | |
| Boston, Mass. | | 520,000 | Gravity and Pumping. | ..... | 10½ | 18½ | 8 00 | 3 00 | 10 00 | 5 00 | 26 00 | |
| Cambridge, Mass. | | 87,000 | " " | ..... | 10 | 30 | 8 00 | 4 00 | 5 00 | 5 00 | 22 00 | |
| Chicago, Ill. | | 1,750,000 | Pumping, | ..... | 8 | 10 | 14 50 | ..... | 3 00 | 3 00 | 20 50 | |
| Cincinnati, Ohio. | | 406,000 | " | ..... | 8½ | 20 | 7 50 | 2 70 | 8 00 | 8 94 | 27 14 | |
| Cleveland, Ohio. | | 370,000 | " | ..... | ..... | ..... | 6 50 | 2 00 | 4 00 | 1 00 | 13 50 | |
| Dayton, Ohio. | | 85,000 | " | 5½ | ..... | ..... | 6 00 | ..... | 3 50 | 6 64 | 18 14 | |
| Des Moines, Iowa. | | 68,000 | " | ..... | 7 | 8 | 6 75 | ..... | 5 00 | 7 50 | 22 25 | |
| ERIE, PENNA. | | 55,000 | " | ..... | 4 | 20 00 | 4 00 | 3 00 | 4 50 | 3 00 | 14 50 | |
| Fall River, Mass. | | 98,000 | " | ..... | 10 | 28 | 10 00 | 5 00 | 8 00 | 6 00 | 29 00 | |
| Grand Rapids, Mich. | | 90,000 | " | ..... | 4½ | 20 | 6 00 | 3 00 | 5 00 | 11 29 | 25 29 | |
| Harrisburg, Penna. | | 60,000 | " | ..... | 2½ | 13½ | 10 50 | 4 00 | 3 00 | 2 00 | 19 50 | |
| Indianapolis, Ind. | | 169,155 | " | ..... | 6 | 20 | 9 00 | 3 00 | 5 00 | 7 10 | 24 10 | |
| Lancaster, Penna. | | 40,000 | " | 5 | ..... | ..... | 6 00 | 3 00 | 6 00 | 5 00 | 20 00 | |
| Lawrence, Mass. | | 54,500 | " | ..... | 8 | 20 | 5 50 | 3 40 | 4 40 | 3 30 | 16 60 | |
| Lowell, Mass. | | 90,000 | " | ..... | 13½ | 18½ | 6 00 | 3 00 | 6 00 | 3 00 | 18 00 | |
| Milwaukee, Wis. | | 270,000 | " | 6 | ..... | ..... | 10 00 | 3 00 | 3 50 | 17 42 | 33 92 | |
| Philadelphia, Penna. | | 1,300,000 | " | 4 | ..... | ..... | 5 00 | 3 00 | 2 00 | 5 00 | 15 00 | |
| Pittsburg, Penna. | | 300,000 | " | ..... | 8 | 20 | 13 00 | 1 00 | 6 00 | 8 00 | 28 00 | |
| Providence, R. I. | | 150,000 | " | ..... | 15 | 20 | 6 00 | 5 00 | 8 00 | 5 00 | 24 00 | |
| Reading, Penna. | | 87,735 | Gravity and Pumping. | ..... | 2½ | 50 | 4 50 | 2 50 | 4 00 | 9 00 | 20 00 | |
| Rochester, N. Y. | | 170,000 | " | ..... | 10 | 14 | 5 00 | 2 00 | 3 00 | 4 00 | 14 00 | |
| Rearlman, Mich. | | 52,000 | Pumping, | ..... | 6 | 11 | 9 00 | 3 00 | 4 00 | 3 00 | 19 00 | |
| Springfield, Mass. | | 55,000 | Gravity, | ..... | 7 | 30 | 8 00 | 4 00 | 6 00 | 5 00 | 23 00 | |
| Syracuse, N. Y. | | 133,000 | " | ..... | 4½ | 18½ | 5 00 | 4 00 | 6 00 | 6 00 | 21 00 | |
| Warrenter, Mass. | | 102,000 | " | ..... | 15 | 25 | 7 00 | 5 00 | 6 00 | 5 00 | 23 00 | |

BASIS OF COMPARISON:
 { Building—Two stories high; 10 rooms; assessed valuation \$1,500.00 to \$3,000.00,
 { Family—Six persons. Three faucets and three sinks allowed with each family.
 { Fixture—(One bath; two water closets, and faucet for sprinkling.
 { Lot—Inside lot; 4½ feet front on a 60-foot street; 165 feet or less in depth.
 ERIE, PENNA.—Family, \$4.00; Bath tub, \$3.00; each additional, \$1.50. Water closet, \$3.00; each additional, \$1.50.
 Sprinkling, 4½ feet front or less, \$3.00; each additional foot front, 5 cents. For meter rates see page 61.

ALBANY, N. Y.—Two-story dwellings on a lot from 40 feet to 50 feet wide, \$18.00; includes one each bath tub and water closet and sprinkling; each additional room, \$5.00; each additional person, \$2.00.

ALLEGHENY, PENNA.—Six-room house, \$10.25; each additional room, \$1.50. Each bath tub, hot and cold water, \$3.00. Water closets, not less than \$2.00, nor more than \$10.00; each additional closet, $\frac{1}{2}$ rates. Street sprinkling, \$3.00.

BOSTON, MASS.—Family, every dwelling-house shall be charged, when it is valued for the payment of taxes at \$500.00 or any sum less, and occupied by one family only, \$5.00; more than \$500.00 and not more than \$1,000.00, \$6.00; and for every additional \$1,000.00 or fractional part thereof, \$1.00 until the valuation for the assessment of taxes shall amount to \$23,000.00. Bath tubs, \$5.00 each. Water closets, each, \$3.00. Sprinkling, \$5.00.

CAMBRIDGE, MASS.—Family, first faucet, \$4.00; each additional faucet, \$2.00. First water closet, \$5.00; each additional, \$2.00. Sprinkling, less than 5,000 feet, \$5.00.

CHICAGO, ILL.—Two-story dwelling on a lot from 40 feet to 44 feet wide, \$14.50, which carries with it one each bath tub and water closet; each additional of each, \$3.00. Sprinkling, \$3.00.

CINCINNATI, OHIO.—Nine to 16-room house, \$7.50. Each bath tub, \$2.70. Each water closet, \$4.00. Sprinkling, 1 cent per square yard.

CLEVELAND, OHIO.—Dwellings, one two or three rooms, \$3.00; each additional room, 50c. Bath tubs, each, \$2.00. Water closets, each, \$2.00. Sprinkling, lot 66 feet or less in front, $\frac{3}{4}$ -inch connection, \$1.00.

DAYTON, OHIO.—Dwellings, six rooms or less, \$4.00; each additional room, 50c. Bath tub, \$2.00; each additional bath tub, \$1.00. Water closet, \$2.50; each additional, \$1.00. Sprinkling, 25 feet front or less, \$3.00; each additional foot front extending back 30 feet or less, .02 cts.; additional square yards on premises, .00 $\frac{1}{2}$ cts.

DES MOINES, IOWA.—Family—Dwelling, 6 rooms or less, \$4.00; 6 to 9 rooms, each, 75c; over 9, each, 50c. Bath tub, \$3.00 for first one; \$2.00 for each additional. Water closet, for first one, \$3.00; for each additional, \$2.00. Sprinkling, 50 feet front, \$7.50; each additional foot, 10c.

FALL RIVER, MASS.—Family, first faucet, \$5.00; each additional faucet, \$2.50. Bath tub, first one, \$5.00; each additional one, \$4.00. Water closet, first one, \$5.00; each additional one, \$3.00. Sprinkling, where nozzle not exceeding $\frac{3}{4}$ -inch diameter is used, \$6.00.

GRAND RAPIDS, MICH.—Family, four persons or less, \$4.00; each additional person, \$1.00. Bath tub, four persons or less, one or more tubs, \$2.00; each additional person using same, 50c. Water closets, four persons or less, one or more closets, \$4.00; each additional person using same, 50c; or hopper or non-self-closing, double rates. Sprinkling, for each 1,000 square feet watered, \$2.00. (Estimate—lot 41 $\frac{1}{2}$ x 155 and $\frac{1}{2}$ of 60-foot street—844 sq. ft. Stay buildings equal 30 x 80—2,400 sq. ft. Ctg. for remainder 5,644 sq. ft.)

HARRISBURG, PENNA.—Family, first openings, 2-story house on street, \$6.50. Sinks, \$2.00. Bath tub, \$4.00. Water closets, \$3.00. Sprinkling, \$2.00.

INDIANAPOLIS, IND.—Family, 3 rooms, \$4.00; 6 rooms or less, \$5.00; each additional room, \$1.00. Bath tub, first one, \$3.00; each additional tub, \$2.00. Water closets, first one, \$3.00; each additional closet, \$2.00. Sprinkling, 30 feet and under, \$6.00; each additional foot over 30 ft., 10c.

LANCASTER, PENNA.—Family, two-story house, \$6.00. Bath tub, \$3.00 each. Water closet, \$3.00 each. Sprinkling, \$3.00 per season.

LA WRENCE, MASS.—Family, five persons or less, \$5.00; each additional person, 50c. Bath tub, 5 persons or less, \$3.00; each additional person to 12, 40c; each additional tub, \$2.00. Water closet, 5 persons or less, \$2.00; each additional person, 40c. Sprinkling, under 25 feet front, \$2.00; each additional foot up to 70 feet, 50c.

LOWELL, MASS.—Family, six persons, \$6.00; each additional person, 50c. Bath tub, each person residing in house, 50c, but no charge less than \$1.00. Water closets, each person residing in house, 50c,—nothing less than \$1.00; each additional closet, \$2.00. Sprinkling, \$3.00.

MILWAUKEE, WIS.—Family, five or six rooms, \$6.00; each additional room, \$1.00. Bath tubs, each, \$4.00. Water closets, first one \$2.00; each additional one, \$1.50. Sprinkling,—for sprinkling sidewalks and half streets only, for 25 feet front or less, \$4.00; for each additional foot, 15c. Lawns or gardens, from May 1 to Nov. 1 only, and not to exceed three hours each day, for each 1,000 square feet or less, \$2.50. No lawn sprinkler or street washer shall be charged separately without charging for all buildings and fixtures on said premises. (Street washer in this case would be \$6.40; lot would be for 6,500 sq. ft. less buildings 2,400 sq. ft. would be \$4.00; lot at \$2.50 per 1,000 sq. ft.—\$11.02.)

PHILADELPHIA, PENNA.—Family, \$3.00. Bath tubs, each, \$3.00. Water closets, each, \$1.00. Sprinkling, \$3.00.

PITTSBURG, PENNA.—Family, one room, \$2; each additional room, \$1. Sinks, each, \$1.00. Bath tubs, each, \$1.00. Water closets, each, sell-out, \$2.00. Sprinkling, wash pan, \$3.00; lawn sprinkling, \$5.00.

PROVIDENCE, R. I.—Family, \$6.00. Bath tub, first tub, \$3.00; each additional, \$3.00. Water closets, first closet, \$5.00; each additional, \$5.00. Sprinkling season, \$5.00.

READING, PENNA.—Family, \$4.50. Bath tub, first tub, \$2.50; each additional, \$2.00. Water closets, each, \$2.00. Sprinkling,—permission to sprinkle streets, \$4.00; lawn sprinkler (April to October), each, \$5.00.

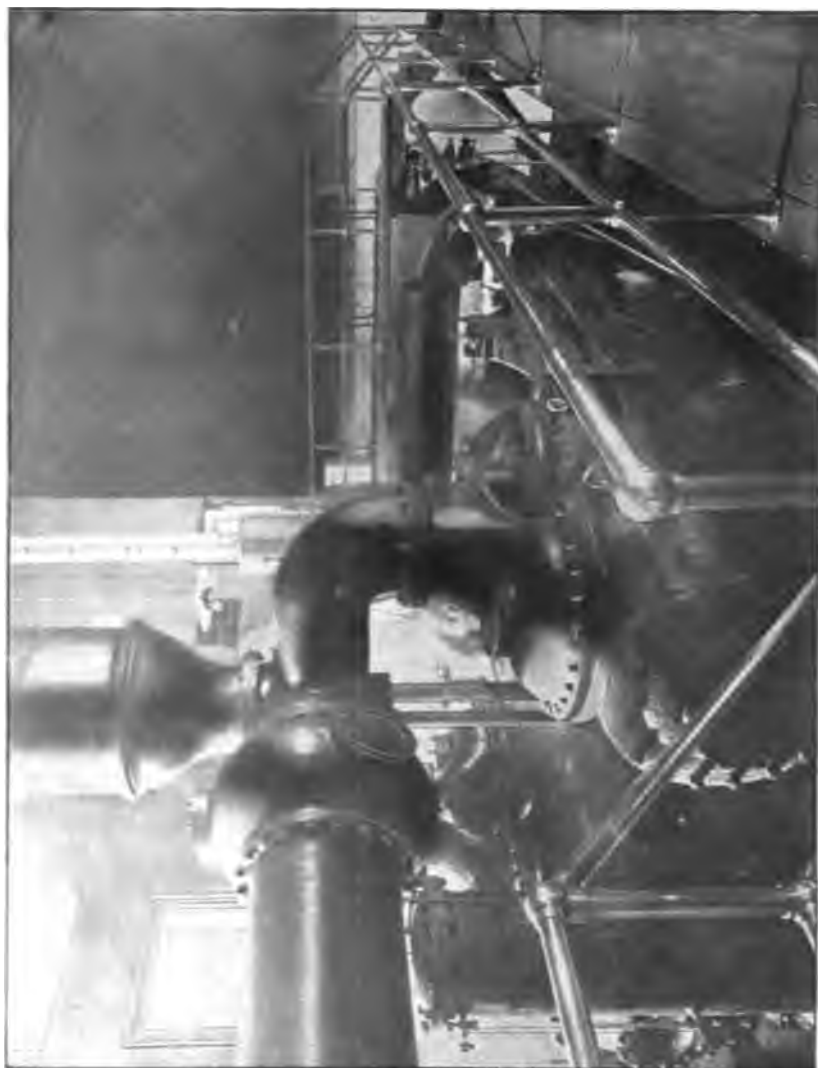
ROCHESTER, N. Y.—Family, \$5.00. Bath tub, first one, \$5.00; each additional, \$5.00. Bath tubs, first tub, \$2.00; each additional tub, \$1.00. Water closets, first closet, \$2.00; each additional closet, \$1.00. Sprinkling, 50 feet frontage or less, \$4.00; each additional foot front up to 100 feet, 5c; each additional foot front over 100 feet, 5c; hose attachment over two, each, \$2.00.

SAGINAW, MICH.—Family, 6 persons, 8 rooms, \$8; 7 or 8 persons, 10 rooms, \$9. Bath tubs, 4 persons or less, \$2; each additional person, 50c. Water closets, 6 persons or less, \$3.00; each additional person, 50c; each additional closet, \$1.00. Sprinkling, each lot 60 x 120 feet or less, \$2.00.

SPRINGFIELD, MASS.—Family, \$8.00. Bath tubs, \$4.00; each additional tub, \$2. Water closet, \$4; each additional closet \$2. Sprinkling, \$5, where water is used by family; when it is not used by family, \$8.

SYRACUSE, N. Y.—Family, \$5.00. Bath tub, one or two tubs for family use, \$4.00. Water closets, \$5.00; for each additional closet, \$1.00. Sprinkling, accompanied by inside use, \$6.00; when unaccompanied by inside use for domestic purposes, \$10.00.

WORCESTER, MASS.—Family, 6 persons or less, \$6.00; not over 10 persons, \$8.00; all sinks more than two, each, \$1.00. Bath tubs, first tub, \$5.00; each additional tub, \$2.00. Water closets, first closet, \$4.00; each additional closet, \$2.00. Sprinkling, 5,000 square feet or less, \$3.00.



WORTHINGTON 8,000,000 GALLON HORIZONTAL COMPOUND HIGH DUTY PUMPING ENGINE.
WATER CYLINDERS

Report Upon the Worthington 8,000,000 Gallon High Duty Pumping Engine.

Pittsburg, Pa., Oct. 13, 1899.

Messrs. T. W. Shacklett, Clark Olds, Wm. Hardwick, Commissioners of Water Works in the City of Erie, Pa.

Gentlemen:

We beg to report on your 8,000,000 gallon Worthington compound high duty pumping engine No. 1315, installed 1899.

This pumping engine is of the compound condensing high duty type peculiar to the Henry R. Worthington Co. It was tested July 31st. and Aug. 1st, 1899, with the idea of comparing the duties obtained with the specific guarantees, at different rates of speed and capacities, and at different steam pressures. While a greater number of tests were called for in the contract than were actually made, and of greater duration than actually made, it was thought that by taking the extremes of these guarantees, and at least one intermediate test, that it would be sufficient for the purpose of checking all the guarantees.

Owing to the fact that no boiler test was required, and the means for determining the amount of feed water used was rendered extremely simple with the use of a surface condenser, it was not thought necessary to run these tests for longer than about eight hours. It is to be said here that the results hour by hour were so perfectly uniform that the tests were of ample duration.

The pumping engine consists of two high pressure cylinders each 25 inch diameter; two low pressure cylinders each 50 inch diameter; two double acting water plungers each 23 inch diameter, all of 36 inch stroke. Cylinders jacketed on barrels and heads. Surface condenser placed in suction pipe, with attached air pump. Primary heater in main exhaust pipe, delivering water to an auxiliary heater, receiving exhaust steam at atmospheric pressure from auxiliary pumps.

The Results Obtained Are Tabulated Below.

| DATES OF TESTS | July 31st. | July 31st. & Aug. 1st. | Aug. 1st. |
|---|------------|---------------------------|------------|
| Length of test..... | 9 | 8 | 7 hrs. |
| Average steam pressure at Engine, corrected for elevation of gauge..... | 115.8 | 114.6 | 96.1 lbs. |
| Average vacuum..... | 28. | 26.61 | 27.62 ins. |
| Average water pressure at gauge..... | 140.07 | 138.97 | 97.05 lbs. |
| Average suction gauge, corrected for connections to vacuum chamber..... | 4.78 | 5.63 | 4.65 lbs. |
| Elevation of water gauge above suction gauge..... | 4.4 | 4.4 | 4.4 lbs. |
| Total head on plungers..... | 149.25 | 149. | 105.3 lbs. |
| Average stroke for engine..... | 37.78 | 37.72 | 37.95 ins. |
| Total reading of counter..... | 5172 | 10330 | 2167 |
| Complete revolutions of engine per minute..... | 9.58 | 21.52 | 5.16 |
| Average piston speed per minute..... | 60.3 | 135.3 | 32.6 |
| Total plunger travel during test..... | 65126. | 129881. | 27412. |
| Total gallons pumped during test, not corrected for slippage..... | 1,378,700 | 2,749,567 | 580,320 |
| Rate of pumping for 24 hours.... | 3,676,300 | 8,248,700 | 1,989,570 |

| DATES OF TESTS.. .. . | July 31st. | July 31st & Aug. 1st. | Aug. 1st. |
|---|------------|--------------------------|-------------|
| Excess above contract guarantee of 8,000,000 gal. | | 3.11 pct. | |
| Average temperature of air pump discharge. | 86. | 100.7 | 79.8 |
| Average temperature of feed water leaving heater during test | 129. | 139.7 | 116.5 |
| Averag. temperature of jacket water. | 331. | 331.5 | 321. |
| Average temperature of feed water to boilers corrected for amount of water chargeable to this engine, plus heat con- tained in waste jacket water.. | 165. | 164.5 | 167.2 |
| Total weight of steam used by main engine cylinders. | 28,368. | 56,651. | 9,250. |
| Total weight of jacket water. | 6,242. | 8,427.5 | 2,996. |
| Total weight of steam used by auxiliary pumps. | 810. | 823. | ..... |
| Steam used by entire engines and auxiliary | 35,420 | 65,901.5 | 12,246 lbs. |
| Net weight of dry steam used by entire engine and auxiliary, corrected for 14 pct. of moisture. | 34,889 | 64,913 | 12,062 lbs. |

RESULTS.

The guarantee in regard to duty was based on 100 pounds of coal, based upon an evaporation of 10 pounds of water per pound of coal, from the temperature of the air pump discharge to dry steam at boiler pressure. Now, as the temperature of the air pump discharge is considerably less than the temperature that could be actually delivered by the pumping engine, as set forth in the item, "Average temperature of feed water to boilers," the Worthington Company is entitled to a credit for this amount as follows:

| | | | |
|--|---------------|---------------|--------------------|
| Equivalent evaporation from ac- tual temperature of feed water | 10.82 | 10.66 | 10.90 lbs. |
| Coal required to operate this test corrected to equivalent evaporation | 3,273 | 6,182 | 1,123 lbs. |
| Foot lbs. of work done. | 3,961,096,000 | 7,886,420,000 | 1,176,328,000 lbs. |
| Contract basis of duty lbs. (100 of coal), | 121,023,000 | 127,570,600 | 104,748,000 |
| Guarantee | 100,000,000 | 110,000,000 | 90,000,000 |
| Excess over guarantee. | 21.02 pct. | 15.97 pct. | 16.4 pct. |
| Duty on 1000 lbs. of dry steam to engine and auxiliary. | 113,540,000 | 121,529,000 | 96,517,500 |

F. R. DRAVO.

Erle, Penn'a., October 14th, 1899.

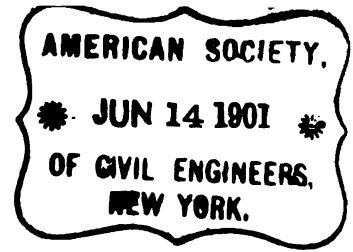
Entered in full in Minute Book No. 4, pages 962 and 963.

WM. HIMROD, Sec'y.

THE
FBI
H-17

ERIE, PA.
HERALD PRINTING & PUBLISHING CO.,
1901.

PRESENTED BY
J.J.R. Croes



34TH

ANNUAL REPORT

OF THE

COMMISSIONERS OF

WATER WORKS,

IN THE CITY OF ERIE,

ERIE, PENN'A,

TO THE

COUNCILS,

FOR THE

YEAR ENDING DECEMBER 31, 1900.

ERIE, PA.
HERALD PRINTING & PUBLISHING CO.,
1901.

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2

REPORT OF THE COMMISSIONERS OF



PUMPING STATION AS SEEN FROM THE BAY.

**Commissioners of Water Works,
In the City of Erie,
ERIE, PENN'A.**

**T. W. SHACKLETT,
CLARK OLDS,
G. F. BREVILLIER.**

OFFICERS.

CLARK OLDS,
President.

WILLIAM HIMROD,
Secretary and Treasurer.

GEO. C. GENSHEIMER,
Assistant Secretary.

F. A. ROTH,
Chief Engineer at Pumping Station.

R. T. WALKER,
Superintendent of Street Work.

OFFICE, CITY HALL.

OFFICE HOURS. From 8:00 a. m. to 5:00 p. m.; on Mondays to 9:00 p. m.

REGULAR MEETINGS OF THE COMMISSIONERS. Every Saturday at 3:00 p. m., and the first of each month at 11:00 a. m., except when it occurs on Sunday, then they meet the following day. Special meetings when necessary.

COMPLIMENTS OF

WILLIAM HIMROD,

SECRETARY AND TREASURER.

MEMBER AMERICAN WATER WORKS ASSOCIATION.

ANNUAL REPORT.

To the Councils of the City of Erie, Pa.:

GENTLEMEN :

We herewith submit the thirty-fourth annual report of this department, for the year ending December 31, 1900.

RECEIPTS.

| | | |
|--|-----------|-------------------|
| Balance in City Treasury Dec. 31, 1899, \$ | 664 | 22 |
| From Water Rents : | | |
| Assessments. | \$ 99,047 | 97 |
| Meters | 22,411 | 31 |
| Building Permits..... | 618 | 62 |
| Special Permits..... | 120 | 68 |
| | | <u>122,198 58</u> |
| From other sources..... | | 2,278 45 |
| Total.. | \$ | <u>125,141 25</u> |

DISBURSEMENTS

| | | |
|---|-----------|-------------------|
| Construction | \$ 50,678 | 87 |
| Maintenance | 15,681 | 37 |
| Operating..... | 26,187 | 61 |
| Accounting | 8,817 | 63 |
| Legal..... | 395 | 63 |
| | | <u>101,761 11</u> |
| Sinking Fund Comm's City of Erie..... | | 23,000 00 |
| Balance in City Treasury Dec. 31, 1900... | | <u>380 14</u> |
| Total..... | \$ | <u>125,141 25</u> |

The decrease in the receipts from the previous year, as shown by the books, amounts to the sum of \$17,145 44.

On January 1, 1900, the new schedule of water rates went into effect, which reduced the revenues of the department to the amount above stated ; nevertheless we were able to pay to the sinking fund commissioners of the city, the sum of \$23,000.00, and to expend for construction the sum of \$50,678.87.

At the pumping station we installed an electric coal carrier and elevator, which greatly reduces the expense of handling coal.

During the past year we laid a little over three and one-half miles of new mains.

The total length of water mains is now nearly 107 $\frac{1}{4}$ miles.

The amount of water pumped last year was 3,124,440,644 gallons, an increase of 402,118,040 gallons over the year 1899.

The average daily pumpage for the year amounted to 8,560,111 gallons, an increase of 1,101,693 gallons over the average daily pumpage for the year 1899.

The daily per capita pumpage was 162.3 gallons, based upon the census report for 1900, which gives the city a population of 52,733.

We estimate that one-half the water pumped is wasted, which waste might be curtailed by the introduction of meters. We recently recommended to your Honorable bodies a reduction of the minimum meter rates, and a change in the rules to allow all water takers, who desire, to take water by meter measurement, but the recommendations were disapproved.

The high service system, embracing all that portion of the city south of Nineteenth street, has been maintained throughout the year in a satisfactory manner.

An average daily pressure of a little over 126 pounds was maintained on the high service system, at the pumping station, which gave to the inhabitants of the southern portion of the city, the same service they would have had, if the surface of the reservoir had been raised sixty-seven feet.

The accounts of this department have not been audited for a period of four years, and we reiterate our request that this important duty be performed annually.

The department is still confronted with the serious problem of the gradual pollution of the bay by the sewage from the city.

The bay, from which our supply of water is taken, is a natural reservoir and settling basin, and if kept unpolluted is of priceless value.

Big Bend is an ideal place for an intake crib, as it is protected by the peninsula from storms. The adjoining water is deep, and at all times clear, transparent and changeable.

The surface of the bay rises and falls in unison with the level of the lake, which is affected by the wind. The daily change in the level of the lake is from one to eight inches. Each inch of change in the level of the bay, affects its contents about eighty million gallons. An average daily change in the level of the lake of four inches would change the contents of the bay three hundred and twenty million gallons. These forces of nature are constantly working to keep the bay in its primitive purity.

For the period of twenty years, this department has annually called the attention of your Honorable bodies to the gradual pollution of the water of the bay with the city sewage, and has urged the necessity for the construction of an intercepting sewer or for the changing of the mouth of Mill Creek, so as to discharge its polluted waters into the open lake.

Since we believe the Councils, who have charge of the city sewerage, are responsible for the purity of the water supply, the possible danger to the health of the city, requires that this important question should be seriously considered by them and satisfactorily solved.

Respectfully submitted,

T. W. SHACKLETT,
CLARK OLDS,
G. F. BREVILLIER,

Commissioners.

***Commissioners of Water Works, in the City of Erie from
Organization to December 31, 1900.***

The Commissioners of Water Works, in the City of Erie, are appointed by the Court of Common Pleas of Erie County, Penna., for a term of three years, one member being named annually, in May.

| | | | |
|------|-------------------|-------------------|--------------------|
| 1867 | *W. L. Scott, | *Henry Rawle, | Wm. W. Reed. |
| 1868 | *John C. Selden. | *Henry Rawle. | Wm. W. Reed. |
| 1869 | *John C. Selden. | *Henry Rawle, | Wm. W. Reed. |
| 1870 | *John C. Selden, | *Henry Rawle, | Wm. W. Reed. |
| 1871 | *†John C. Selden, | *Henry Rawle, | Wm. W. Reed. |
| 1872 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed. |
| 1873 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed. |
| 1874 | Matthew R. Barr, | John Gensheimer. | Wm. W. Reed. |
| 1875 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed. |
| 1876 | Matthew R. Barr, | John Gensheimer, | Wm. W. Reed. |
| 1877 | Michael Liebel, | John Gensheimer, | Wm. W. Reed. |
| 1878 | Michael Liebel, | *J. M. Bryant, | Wm. W. Reed. |
| 1879 | Michael Liebel, | *J. M. Bryant, | *G. W. F. Sherwin. |
| 1880 | Michael Liebel, | *J. M. Bryant, | *G. W. F. Sherwin. |
| 1881 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1882 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1883 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1884 | Michael Liebel, | Benjamin Whitman, | *G. W. F. Sherwin. |
| 1885 | Michael Liebel, | Benjamin Whitman, | Geo. W. Starr. |
| 1886 | C. Kessler, | Benjamin Whitman, | Geo. W. Starr. |
| 1887 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1888 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1889 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1890 | C. Kessler, | C. J. Brown, | Geo. W. Starr. |
| 1891 | C. Kessler, | C. J. Brown, | Wm. Hardwick |
| 1892 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |
| 1893 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |
| 1894 | T. W. Shacklett, | C. J. Brown, | Wm. Hardwick. |
| 1895 | T. W. Shacklett, | ‡C. J. Brown, | Wm. Hardwick. |
| 1896 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |
| 1897 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |
| 1898 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |
| 1899 | T. W. Shacklett, | Clark Olds, | Wm. Hardwick. |
| 1900 | T. W. Shacklett, | Clark Olds, | G. F. Brevillier. |

*Dead.

†Mr. Selden resigned before the expiration of his second term; Mr. Barr was substituted by the other Commissioners, and afterward appointed by the Court.

‡C. J. Brown resigned December 28, 1895, having been elected Treasurer of Erie County, Penna. Clark Olds was chosen by the other Commissioners for the unexpired term, on recommendation of the Court, January 2, 1896.

**Officers of Water Works, from Organization to December 31,
1900.**

| | President. | Secretary & Treasurer. | Assistant Secretary. |
|------|--------------------|------------------------|----------------------|
| 1867 | Wm. W. Reed, | *Wm. Brewster, | ..... |
| 1868 | Wm. W. Reed, | *Wm. Brewster, | ..... |
| 1869 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1870 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1871 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1872 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1873 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1874 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1875 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1876 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1877 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1878 | Wm. W. Reed, | *J. C. Perkins, | ..... |
| 1879 | Michael Liebel, | B. F. Sloan, | ..... |
| 1880 | Michael Liebel, | B. F. Sloan, | ..... |
| 1881 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1882 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1883 | *G. W. F. Sherwin, | B. F. Sloan, | ..... |
| 1884 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1885 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1886 | Benjamin Whitman, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1887 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1888 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1889 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1890 | Geo. W. Starr, | B. F. Sloan, | Geo. C. Gensheimer. |
| 1891 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1892 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1893 | C. J. Brown, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1894 | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1895 | Wm. Hardwick, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1896 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1897 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1898 | T. W. Shacklett, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1899 | Clark Olds, | Wm. Himrod, | Geo. C. Gensheimer. |
| 1900 | Clark Olds, | Wm. Himrod, | Geo. C. Gensheimer. |

*Dead.

NOTE.—Mr. Brewster was elected June 14, 1867; resigned October 26, 1868, to take effect November 2, 1868; served 1 year, 4 months and 18 days. Mr. Perkins was elected October 26, 1868, to take effect November 2, 1868; resigned March 30, 1878; same accepted December 21, 1878, to take effect January 1, 1879; served 10 years, 1 month and 29 days. Mr. Sloan was elected December 21, 1878, to take effect January 1, 1879; continued in office to June 1, 1891; served 12 years and 5 months. Mr. Himrod was appointed Secretary May 23, 1891, to take effect June 1, 1891. Mr. Gensheimer was appointed Assistant Secretary January 26, 1884.

**Monthly Receipts from all Sources During the Year Ending
December 31, 1900.**

| Month. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|----------------|-------------|-------------|----------|-------------|-----------|--------------|
| January..... | \$22,194 50 | \$ 3,357 22 | 3 78 | \$ 187 96 | \$ 15 48 | \$ 25,758 94 |
| February..... | 1,887 73 | 12 75 | 5 08 | 15 99 | 30 58 | 1,952 13 |
| March..... | 434 71 | 66 21 | 7 17 | 24 12 | 22 25 | 554 46 |
| April..... | 21,587 71 | 5 602 91 | 5 00 | ..... | 25 78 | 27,221 40 |
| May..... | 2,193 46 | 4 72 | 18 00 | 89 20 | 55 23 | 2,360 61 |
| June..... | 583 67 | 262 07 | 22 85 | 103 63 | 118 36 | 1,090 58 |
| July..... | 22,884 61 | 6,129 85 | 15 58 | 219 76 | 52 94 | 29,302 74 |
| August..... | 2,027 14 | 33 07 | 16 41 | 708 40 | 47 28 | 2,832 30 |
| September..... | 191 30 | 40 51 | 4 26 | 10 40 | 65 63 | 312 10 |
| October..... | 22,783 98 | 6,859 49 | 12 80 | 353 68 | 117 86 | 30,127 81 |
| November..... | 2,140 21 | 3 65 | 8 75 | 8 21 | 25 88 | 2,186 70 |
| December..... | 138 95 | 38 86 | 1 00 | 557 10 | 41 35 | 777 26 |
| | \$99,047 97 | \$22,411 31 | \$120 68 | \$ 2,278 45 | \$ 618 62 | \$124,477 03 |

**Receipts from each Ward during the Year Ending December
31, 1900.**

| Ward. | Assessment. | Meter. | Special. | Plumbing. | Building. | Total. |
|--------------|-------------|-------------|----------|-------------|-----------|--------------|
| First..... | \$13,549 52 | \$ 2,104 98 | \$ 13 00 | \$ 59 32 | \$ 93 42 | \$ 15,820 24 |
| Second..... | 21,092 48 | 10,519 10 | 13 29 | 549 31 | 134 69 | 32,308 87 |
| Third..... | 23,678 94 | 4,920 95 | 26 57 | 495 72 | 171 11 | 29,293 29 |
| Fourth..... | 18,894 56 | 1,186 47 | 21 45 | 59 20 | 71 43 | 20,233 11 |
| Fifth..... | 9,620 17 | 2,384 81 | 38 22 | 17 68 | 101 85 | 12,152 73 |
| Sixth..... | 11,331 25 | 648 91 | 7 73 | 734 23 | 39 96 | 12,762 08 |
| Seventh..... | 881 05 | 646 09 | 10 42 | 362 99 | 6 16 | 1,906 71 |
| | \$99,047 97 | \$22,411 31 | \$120 68 | \$ 2,278 45 | \$ 618 62 | \$124,477 03 |

**Cash Account of Secretary and Treasurer of Commissioners
of Water Works, in the City of Erie, for the Year End-
ing December 31, 1900.**

| Month. | Receipts. | Deposited with Treasurer City of Erie. | Balance in Office at Close of Busi- ness each Month. |
|----------------|--------------|--|--|
| January..... | \$ 25,758 94 | \$ 22,710 92 | \$ 3,048 02 |
| February..... | 1,952 13 | 4,941 33 | 58 82 |
| March..... | 554 46 | 445 33 | 167 95 |
| April..... | 27,221 40 | 23,116 42 | 4,272 93 |
| May..... | 2,360 61 | 6,457 64 | 175 09 |
| June..... | 1,090 58 | 1,138 28 | 128 20 |
| July..... | 29,302 74 | 26,509 85 | 2,921 09 |
| August..... | 2,832 30 | 5,670 39 | 83 00 |
| September..... | 312 10 | 293 41 | 101 69 |
| October..... | 30,127 81 | 26,860 61 | 3,368 89 |
| November..... | 22,186 70 | 5,492 31 | 63 28 |
| December..... | 777 26 | 840 54 | ..... |
| Total..... | \$124,477 03 | \$124,477 03 | ..... |

**Statement of Account with Treasurer of the City of Erie, for
the Year Ending December 31, 1900.**

| Month. | Received from Sec'y and Treas. Commissioners of Water Works in the City of Erie. | Paid on Warrants of Commissioners of Water Works, in the City of Erie. | Monthly Balances. |
|------------------------|--|---|----------------------|
| Balance from 1899..... | \$ 664 22 | | |
| January..... | 22,710 92 | \$ 11,125 64 | \$ 12,249 50 |
| February..... | 4,941 33 | 14,729 09 | 2,461 74 |
| March..... | 445 33 | 2,414 52 | 492 55 |
| April..... | 23,116 42 | 13,810 77 | 9,798 20 |
| May..... | 6,457 64 | 5,870 14 | 10,385 70 |
| June..... | 1,138 28 | 9,445 84 | 2,078 14 |
| July..... | 26,509 85 | 18,897 86 | 9,690 13 |
| August..... | 5,670 39 | 8,012 12 | 7,348 40 |
| September..... | 293 41 | 6,982 35 | 659 46 |
| October..... | 26,860 61 | 7,634 73 | 19,885 34 |
| November..... | 5,492 31 | 11,974 81 | 13,402 84 |
| December..... | 840 54 | 13,863 24 | 380 14 |
| Total..... | \$125,141 25 | \$124,761 11 | \$ 380 14 |

**Amount Collected Annually for Water Furnished, showing
Total Collections, also the Increase and Decrease
each Year since the Commencement
of the Water Works.**

| Year Ending Dec. 31st. | RECEIVED. | | ANNUAL. | |
|---------------------------|-------------|--------------|-------------|---------------|
| | Annually. | Totals. | Increase. | Decrease. |
| 1869..... | \$ 4,264 47 | ..... | ..... | ..... |
| 1870..... | 9,237 30 | \$ 13,501 77 | \$ 4,972 83 | ..... |
| 1871..... | 18,138 08 | 31,639 85 | 8 900 78 | ..... |
| 1872..... | 21,652 68 | 53,292 53 | 3,514 60 | ..... |
| 1873..... | 25,560 40 | 78,852 93 | 3,907 72 | ..... |
| 1874..... | 27,938 90 | 106,791 83 | 2,378 50 | ..... |
| 1875..... | 29,639 38 | 136,431 21 | 1,700 48 | ..... |
| 1876..... | 31,048 76 | 167,479 97 | 1,409 38 | ..... |
| 1877..... | 32,276 57 | 199,756 54 | 1,227 81 | ..... |
| 1878..... | 29,636 01 | 229,392 55 | ..... | \$ 2,640 56 |
| 1879..... | 33,343 20 | 262,735 75 | 3,707 19 | ..... |
| 1880..... | 37,385 00 | 300,120 75 | 4,041 80 | ..... |
| 1881..... | 40,385 87 | 340,506 62 | 3,000 87 | ..... |
| 1882..... | 43,818 73 | 384,325 35 | 3,432 86 | ..... |
| 1883..... | 48,269 89 | 432,595 24 | 4,451 16 | ..... |
| 1884..... | 51,852 78 | 484,448 02 | 3,582 89 | ..... |
| 1885..... | 53,550 35 | 537,998 37 | 1,697 57 | ..... |
| 1886..... | 58,725 00 | 596,723 37 | 5,174 65 | ..... |
| 1887..... | 67,121 92 | 663,845 29 | 8,396 92 | ..... |
| 1888..... | 73,197 03 | 737,042 32 | 6,075 11 | ..... |
| 1889..... | 81,110 68 | 818,153 00 | 7,913 65 | ..... |
| 1890..... | 87,279 96 | 905,432 96 | 6,169 28 | ..... |
| 1891..... | 93,891 55 | 999,324 51 | 6,611 59 | ..... |
| 1892..... | 105,527 03 | 1,104,851 54 | 11,635 48 | ..... |
| 1893..... | 111,247 45 | 1,216,098 97 | 5,720 40 | ..... |
| 1894..... | 111,821 94 | 1,327,920 91 | 574 51* | ..... |
| 1895..... | 116,927 63 | 1,444,848 54 | 5,105 69 | ..... |
| 1896..... | 121,442 94 | 1,566,291 48 | 4,515 31 | ..... |
| 1897..... | 124,106 61 | 1,690,398 09 | 2,663 67 | ..... |
| 1898..... | 131,393 48 | 1,821,701 57 | 7,196 87 | ..... |
| 1899..... | 139,344 02 | 1,961,054 59 | 8,040 54 | ..... |
| 1900..... | 122,198 58 | 2,083,253 17 | ..... | \$ 17,145 44+ |

*Meter rates for water changed from a sliding scale of 6 cents to 10 cents per 1,000 gallons, according to amount consumed, to a flat rate of 6 cents per 1,000 gallons, causing a reduction in receipts of \$5,000.00.

+Meter rates changed from six cents per one thousand (1,000) gallons to twenty (20) cents for each one thousand (1000) gallons for the first Twenty-five Thousand (25,000) gallons, and Four (4) cents for each one thousand (1,000) gallons consumed thereafter during each current quarter. Same took effect July 1, 1899. Family rates changed from \$5.00 per annum to \$4.00, taking effect January 1, 1900. These changes in rates account for the heavy decrease in the receipts for 1900.

STATEMENT OF WARRANTS ISSUED IN 1900.**January.****TO PAY VOUCHER.**

| Date. | No. | Of | For | Amount. |
|-------|-------|--|--|-----------|
| 2 | 10182 | Erie Mfg. & Supply Co., | Lead Pipe and Solder..... | \$ 398 48 |
| 6 | 10183 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries..... | 9 28 |
| | 10184 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk..... | 184 20 |
| 13 | 10185 | H. F. Watson Co., | Roofing Paper..... | 1 05 |
| | 10186 | Mayer Bros., | Repairing Cut in Pavement..... | 1 46 |
| | 10187 | Consumers' Ice & Cold Storage Co., | Ice..... | 1 75 |
| | 10188 | Geo. Carroll & Bro. Co., | Lumber..... | 2 12 |
| | 10189 | Edison Construction and Supply Department, | Inner Air Globes..... | 3 00 |
| | 10190 | Times Publishing Company, | One Year's Subscription..... | 3 00 |
| | 10191 | Geo. Schlindwein, | Repairing Harness..... | 3 50 |
| | 10192 | Keystone Electric Company, | Carbon, Brushes, Etc..... | 3 90 |
| | 10193 | The Erie Gas Company, | Coke..... | 3 92 |
| | 10194 | Henry R. Worthington, | Tell Tale Rod..... | 4 05 |
| | 10195 | Standard Brick Works, | Brick..... | 4 40 |
| | 10196 | The Atlantic Refining Co., Eclipse Station, | Oil..... | 6 00 |
| | 10197 | Dispatch Publishing Company, | One Year's Subscription..... | 6 00 |
| | 10198 | F. J. Hampel, | Repairs to Electric Light Plant..... | 6 25 |
| | 10199 | A. S. Pinney, | Hardware and Tools..... | 6 35 |
| | 10200 | Lyman Felheim, | Lumber..... | 6 81 |
| | 10201 | The Flickinger Roofing and Cornice Co., Limited, | Repairing Tools..... | 7 70 |
| | 10202 | James L. Firman, | Teaming..... | 8 78 |
| | 10203 | Globe Iron Foundry Co., | Castings..... | 10 57 |
| | 10204 | C. A. Taylor, | Horseshoeing..... | 11 40 |
| | 10205 | Johannesen Manufacturing Co., | Desk..... | 12 00 |

January—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|------------|-------|---|-------|-------------|
| | 10206 | G. J. Gebhardt, | | |
| | | Coal and Wood..... | \$ | 13 75 |
| | 10207 | Mehl & Sapper, | | |
| | | Hardware and Tools..... | | 15 27 |
| | 10208 | Conrad J. Brown, | | |
| | | Oats..... | | 17 28 |
| | 10209 | Wm. Schade, | | |
| | | Repairing Engine and Tools..... | | 21 81 |
| | 10210 | Erie City Iron Works, | | |
| | | Repairing Boilers..... | | 56 10 |
| | 10211 | Hays Manufacturing Co., | | |
| | | Cocks, Fittings, Valves, Etc..... | | 59 66 |
| | 10212 | Erie Oil Works, | | |
| | | Oil..... | | 84 94 |
| | 10213 | Erie Machine Shops, | | |
| | | Repairing Engines and Boilers..... | | 84 97 |
| | 10214 | Erie Manufacturing and Supply Co., | | |
| | | Waste, Packing, Grease, Etc..... | | 111 64 |
| | 10215 | Momeyer & Graf, | | |
| | | Coal and Coke..... | | 625 31 |
| | 10216 | Union Water Meter Company, | | |
| | | Meters..... | | 723 00 |
| | 10217 | R. D. Wood & Co., | | |
| | | Fire Hydrants and Stop Valves..... | 1,562 | 00 |
| | 10218 | The Constable Bros. Co., | | |
| | | Repairing Buildings..... | | 62 77 |
| | 10219 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 9 15 |
| | 10220 | James L. Firman, | | |
| | | Hay..... | | 17 63 |
| | 10221 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 162 27 |
| | 10222 | John Schweinhard, | | |
| | | Damage to Wagon..... | | 5 25 |
| | 10223 | United States Cast Iron Pipe and Foundry Company, | | |
| | | Pipe and Specials..... | 4,392 | 68 |
| 20 | 10224 | J. M. Dunn, | | |
| | | Water Rent Returned..... | | 11 29 |
| | 10225 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 27 91 |
| | 10226 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 263 50 |
| | 10227 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight..... | | 70 35 |
| 27 | 10228 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 18 26 |
| | 10229 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 291 22 |
| 31 | 10230 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.... | | 845 00 |
| | 10231 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.... | | 866 66 |
| Total..... | | | | \$11,125 64 |

February.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|---|-----|---------|
| 3 | 10232 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | \$ | 76 82 |
| | 10233 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 162 37 |
| 10 | 10234 | Adolph Brugger, | | |
| | | Wooden Plugs..... | | 1 55 |
| | 10235 | Keystone Electric Company, | | |
| | | Repairs to Electric Light Plant..... | | 2 00 |
| | 10236 | The Erie Gas Company, | | |
| | | Coke..... | | 2 16 |
| | 10237 | Erie Heating and Plumbing Company, | | |
| | | Plumbing Material..... | | 2 20 |
| | 10238 | W. E. Hayes & Co , | | |
| | | Lamp..... | | 2 50 |
| | 10239 | McIntire & Tanner, | | |
| | | Plumbing Material..... | | 3 25 |
| | 10240 | Warfel & Arbuckle, | | |
| | | Horse Blankets..... | | 4 00 |
| | 10241 | New York & Penn'a. Telephone & Telegraph Co., | | |
| | | Telephone Rental..... | | 6 00 |
| | 10242 | A. S. Pinney, | | |
| | | Hardware and Tools..... | | 6 13 |
| | 10243 | G. J. Gebhardt, | | |
| | | Coal and Wood..... | | 7 00 |
| | 10244 | C. Kessler, | | |
| | | Brooms and Soap..... | | 8 00 |
| | 10245 | Edison Construction and Supply Department, | | |
| | | Repairs to Electric Light Plant..... | | 9 77 |
| | 10246 | Mehl & Sapper, | | |
| | | Hardware and Tools..... | | 9 74 |
| | 10247 | O. C. Thayer & Son, | | |
| | | Cement and Clay..... | | 11 00 |
| | 10248 | National Meter Company, | | |
| | | Repairs to Meter..... | | 13 00 |
| | 10249 | E. J. Riblet, | | |
| | | Shop Rent..... | | 20 00 |
| | 10250 | The Himrod Engraving Company, | | |
| | | Stationery..... | | 27 50 |
| | 10251 | Erie Machine Shops, | | |
| | | Boiler and Engine Repairs..... | | 43 12 |
| | 10252 | Union Water Meter Company, | | |
| | | Repairs to Meters..... | | 44 65 |
| | 10253 | Skinner Engine Company, | | |
| | | Oil Reservoir..... | | 75 00 |
| | 10254 | The Atlantic Refining Company, Eclipse Station, | | |
| | | Oil..... | | 108 27 |
| | 10255 | Henry R. Worthington, | | |
| | | Valves..... | | 128 50 |
| | 10256 | Ashby & Vincent, | | |
| | | Books and Stationery..... | | 132 55 |
| | 10257 | Erie Manufacturing and Supply Co., | | |
| | | Grease, Tools, Waste, Etc..... | | 246 66 |
| | 10258 | Hays Manufacturing Co., | | |
| | | Fittings..... | | 260 45 |

February—Continued.

TO PAY VOUCHER.

| Date, No. | Of | For | Amount. |
|------------|---|---|-------------|
| 10259 | James L. Firman, | Teaming..... | \$ 4 46 |
| 10260 | Winschel & Company, | Rubber Matting..... | 4 79 |
| 10261 | R. T. Walker, | Horse Shoeing..... | 5 60 |
| 10262 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries..... | 32 14 |
| 10263 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk..... | 155 45 |
| 10264 | Momeyer & Graf, | Coal..... | 112 69 |
| 17 10265 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries..... | 19 75 |
| 10266 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk..... | 167 16 |
| 10267 | United States Cast Iron Pipe and Foundry Co., | Pipe and Specials..... | 2,698 69 |
| 24 10268 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries..... | 56 63 |
| 10269 | Isadore Sobel, Postmaster, | Postal Cards..... | 152 25 |
| 10270 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk..... | 145 25 |
| 10271 | Charles F. Bengel, | Painting Engine No. 5..... | 150 00 |
| 10272 | Henry R. Worthington, | On Acct. Engine No. 5..... | 7,438 38 |
| 28 10273 | Clark Olds, | Services as Commissioner, 2 Months..... | 150 00 |
| 10274 | William Hardwick, | Services as Commissioner, 2 Months..... | 150 00 |
| 10275 | T. W. Shacklett, | Services as Commissioner, 2 Months..... | 150 00 |
| 10276 | Pay Roll, Pumping Station, | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | 845 00 |
| 10277 | Pay Roll, Office and Inspectors, | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | 876 60 |
| Total..... | | | \$14,729 09 |

March.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|--|-----|---------|
| 3 | 10278 | Geo. C. Gensheimer, Ass't Sec'y. | | |
| | | Sundries..... | \$ | 12 85 |
| | 10279 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | | 223 60 |
| 10 | 10280 | Murphy Bros., Repairing Oil Can, Torch, Etc..... | | 2 00 |
| | 10281 | Thompson Meter Co., Repairing Meter..... | | 2 05 |
| | 10282 | Consumers' Ice and Cold Storage Co., Ice..... | | 2 80 |
| | 10283 | Erie Window Glass Co., Paint and Brushes..... | | 3 35 |
| | 10284 | Skinner Engine Company, Sight Feed Lubricator..... | | 3 50 |
| | 10285 | Jas. McCrea & Co., Gaskets..... | | 3 90 |
| | 10286 | Wm. F. Nick & Son, Paints, Brush, Etc..... | | 6 30 |
| | 10287 | C. Kessler, Soap, Baskets and Brushes..... | | 6 35 |
| | 10288 | A. S. Pinney, Hardware and Tools..... | | 10 19 |
| | 10289 | Mehl & Sapper, Hardware and Tools..... | | 10 70 |
| | 10290 | G. J. Gebhardt, Coal..... | | 11 50 |
| | 10291 | Lyman Felheim, Lumber and Meter Boxes..... | | 11 70 |
| | 10292 | The Flickinger Roofing and Cornice Co., Limited. Repairing Engines..... | | 15 31 |
| | 10293 | Erie Electrotype Co., Electrotypes and Half Tones..... | | 18 43 |
| | 10294 | O. C. Thayer & Son, Cement, Fire Brick, Etc..... | | 19 95 |
| | 10295 | E. J. Riblet, Shop Rent..... | | 20 00 |
| | 10296 | A. H. Mueller & Co., Atlas of Erie..... | | 25 00 |
| | 10297 | Ashby & Vincent, Books and Stationery..... | | 25 13 |
| | 10298 | Warner Bros., Matting..... | | 31 69 |
| | 10299 | Herald Printing and Publishing Company, Printing and Stationery..... | | 50 40 |
| | 10300 | Erie City Iron Works, Boiler Repairs..... | | 56 00 |
| | 10301 | Erie Machine Shop, Boiler and Engine Repairs.. | | 81 27 |
| | 10302 | The Fairbanks Company, Check Valve..... | | 84 50 |
| | 10303 | Hays Manufacturing Co., Pipe and Fittings..... | | 86 41 |
| | 10304 | Erie Oil Works, Oil..... | | 154 46 |

REPORT OF THE COMMISSIONERS OF

March—Continued.

TO PAY VOUCHERS.

| | | Amount. |
|-------------|---|-------------|
| 0005 | Erie Manufacturing and Supply Co., Packing .. Vash. Exp..... | \$ 200 00 |
| 0000 | Geo. C. Gensheimer, Asst Sec'y, Sundries | 7 44 |
| 0007 | W. H. Meyer & Son, Sundries | 455 75 |
| 0003 | Pay Roll Street Work, Disbursed by M. L. Whitney, Clerk..... | 173 32 |
| 0000 | Pay Roll Street Work, Disbursed by M. L. Whitney, Clerk..... | 150 00 |
| 0010 | Pay Roll Street Work, Disbursed by M. L. Whitney, Clerk..... | 142 45 |
| 0011 | Geo. C. Gensheimer, Asst Sec'y, Sundries | 5 35 |
| 0012 | Pay Roll Street Work, Disbursed by M. L. Whitney, Clerk..... | 186 00 |
| Total | | \$ 2,474 52 |

April.

TO PAY VOUCHERS.

| Date. | | Amount. |
|---------|--|-----------|
| 4-01-07 | Pay R. L. Pumping Station, Disbursed by Geo. C. Gensheimer, Asst Sec'y... | \$ 845 00 |
| 4-01-07 | Pay R. L. Office and Inspectors, Disbursed by Geo. C. Gensheimer, Asst Sec'y... | 876 06 |
| 4-01-07 | Geo. C. Gensheimer, Asst Sec'y, Sundries | 24 52 |
| 4-01-07 | Pay Roll Street Work, Disbursed by M. L. Whitney, Clerk..... | 330 22 |
| 4-01-07 | Wm. F. Nick & Son, Thermometer | 1 15 |
| 4-01-07 | Consumers Ice and Cold Storage Co., Ice | 1 75 |
| 4-01-07 | George Schindwein, Repairing Harness | 2 00 |
| 4-01-07 | Erie Window Glass Co., Glass | 2 25 |
| 4-01-07 | Herald Printing and Publishing Co., Stationery | 2 75 |
| 4-01-07 | Thomas Meter Co., Repairing Meters | 2 75 |
| 4-01-07 | Hearth & Stove, Stoves | 4 75 |
| 4-01-07 | The Evening News Publishing Co., Office News Subscription | 5 00 |
| 4-01-07 | S. C. Smith, Coal | 5 75 |
| 4-01-07 | Mann & Scherer, Hardware and Tools | 6 14 |
| 4-01-07 | Erie Heating and Plumbing Co., Sewer Pipe | 6 40 |

April—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|--|---|----------|
| | 10328 | O. C. Thayer & Son, | Cement and Clay..... | \$ 6 40 |
| | 10329 | The Flickinger Roofing and Cornice Co., Limited, | Oil Cans, Wire Screens, Etc..... | 6 90 |
| | 10330 | Erie City Iron Works, | Door Liners and Manhole Crabs..... | 8 25 |
| | 10331 | Ashby & Vincent, | Blank Books..... | 8 50 |
| | 10332 | A. S. Pinney, | Hardware and Tools..... | 8 52 |
| | 10333 | The Himrod Engraving Company, | Stationery..... | 11 85 |
| | 10334 | National Meter Company, | Repairing Meters..... | 12 50 |
| | 10335 | Keystone Electric Company, | Carbon Brushes, Fuse Wire, Etc..... | 15 25 |
| | 10336 | Franklin Coal Co., | Coal..... | 16 50 |
| | 10337 | Globe Iron Foundry Co., | Castings..... | 16 88 |
| | 10338 | Edison Construction and Supply Department, | Material for Electric Light Plant. | 17 41 |
| | 10339 | Lyman Felheim, | Meter Boxes. | 17 70 |
| | 10340 | William Schade, | Engine Repairs and Tools..... | 18 06 |
| | 10341 | E. J. Riblet, | Shop Rent..... | 20 00 |
| | 10342 | James L. Firman, | Teaming..... | 20 98 |
| | 10343 | Union Water Meter Company, | Meters..... | 22 60 |
| | 10344 | John Hamberger, Agent, | Insurance Premium..... | 25 00 |
| | 10345 | Mutual Telephone Company. | Rental of Telephones..... | 36 00 |
| | 10346 | Erie Machine Shop, | Engine and Boiler Repairs..... | 45 03 |
| | 10347 | The Bristol Company, | Recording Gauge..... | 54 00 |
| | 10348 | The Atlantic Refining Company, Eclipse Station, | Oil..... | 92 35 |
| | 10349 | Erie Manufacturing and Supply Co., | Grease, Packing, Waste, Etc..... | 115 44 |
| | 10350 | F. R. Dravo & Co., | Test of Engine No. 5..... | 304 50 |
| | 10351 | Momeyer & Graf, | Coal..... | 821 94 |
| | 10352 | Henry R. Worthington, | Payment on Engine No. 5... .. | 7,420 50 |
| | 10353 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk..... | 435 02 |
| 21 | 10354 | The Henesey Manufacturing Co., | Leather Washers..... | 12 74 |

April—Continued.**TO PAY VOUCHER.**

| Date. | No. | Of | For | Amount. |
|---------------------|-------|--|-----|--------------------|
| | 10355 | Hays Manufacturing Co., | | |
| | | Fittings..... | \$ | 46 07 |
| | 10356 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 109 53 |
| | 10357 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 458 99 |
| | 10358 | Times Publishing Company, | | |
| | | Printing and Stationery..... | | 432 30 |
| | 10359 | Clarence A. Taylor and Eva Taylor, his Wife, | | |
| | | Damages..... | | 395 63 |
| 28 | 10360 | Mrs. Mary Hurbert, | | |
| | | Frozen Connection | | 5 75 |
| | 10361 | Louis Barthelmes, | | |
| | | Frozen Connection..... | | 5 80 |
| | 10362 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 9 27 |
| | 10363 | National Carbon Company, | | |
| | | Carbons..... | | 81 67 |
| | 10364 | C. N. Hathaway, | | |
| | | Painting..... | | 100 00 |
| | 10365 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk. | | 451 85 |
| Total. | | | | \$13,810 77 |

May.**TO PAY VOUCHER.**

| Date. | No. | Of | For | Amount. |
|-------|-------|---|-----|---------|
| 1 | 10366 | William Hardwick, | | |
| | | Services as Commissioner, 2 Months..... | \$ | 150 00 |
| | 10367 | T. W. Shacklett, | | |
| | | Services as Commissioner, 2 Months..... | | 150 00 |
| | 10368 | Clark Olds, | | |
| | | Services as Commissioner, 2 Months | | 150 00 |
| | 10369 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 845 00 |
| | 10370 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 876 66 |
| 5 | 10371 | Erie Steam Bending Works, | | |
| | | Lumber..... | | 1 25 |
| | 10372 | Consumers' Ice and Cold Storage Co., | | |
| | | Ice..... | | 1 40 |
| | 10373 | August Jarecki, | | |
| | | Repairing Clock. | | 1 50 |
| | 10374 | F. A. Douglass, | | |
| | | Alarm Bell | | 2 08 |
| | 10375 | The Flickinger Roofing and Cornice Co., Ltd., | | |
| | | Tools..... | | 2 82 |
| | 10376 | A. S. Finney, | | |
| | | Hardware and Tools..... | | 5 10 |
| | 10377 | Wm. F. Nick & Son, | | |
| | | Brush, Paint and Oil..... | | 5 78 |

May—Continued.**TO PAY VOUCHER.**

| Date. | No. | Of For | Amount. |
|-------|-------|---|---------|
| | 10378 | Emil Streuber, Sole Leather..... | \$ 6 30 |
| | 10379 | Erie Gas Company, Coke..... | 7 26 |
| | 10380 | Mehl & Sapper, Hardware and Tools..... | 8 66 |
| | 10381 | Lyman Felheim, Lumber and Meter Box..... | 8 87 |
| | 10382 | Keller & Nerz, Stone..... | 10 00 |
| | 10383 | Union Water Meter Company, Meter Repairs..... | 10 00 |
| | 10384 | Skinner Engine Company, Gauges, Washers, Etc..... | 10 58 |
| | 10385 | Henry Beckman & Sons, Clover Seed..... | 12 50 |
| | 10386 | Ashby & Vincent, Book and Stationery..... | 19 15 |
| | 10387 | E. J. Riblet, Shop Rent..... | 20 00 |
| | 10388 | United States Cast Iron Pipe and Foundry Co., Pipe..... | 23 81 |
| | 10389 | The Fairbanks Company, Check Valves..... | 25 97 |
| | 10390 | The Atlantic Refining Company, Eclipse Station, Oil..... | 26 40 |
| | 10391 | Erie Oil Works, Oil..... | 75 55 |
| | 10392 | Union Oil Works, Oil..... | 83 38 |
| | 10393 | Globe Iron Foundry Co., Castings..... | 84 96 |
| | 10394 | Erie Manufacturing and Supply Co., Fittings, Grease, Packing, Etc..... | 204 18 |
| | 10395 | Momeyer & Graf, Coal..... | 899 50 |
| | 10396 | O. C. Thayer & Son, Cement..... | 2 10 |
| | 10397 | Geo. C. Gensheimer, Ass't Sec'y, Sundries..... | 20 99 |
| | 10398 | Erie Machine Shop, Tools..... | 24 94 |
| | 10399 | Hays Manufacturing Co., Fittings..... | 230 63 |
| | 10400 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | 406 59 |
| 12 | 10401 | Geo. C. Gensheimer, Ass't Sec'y, Sundries..... | 25 04 |
| | 10402 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | 366 90 |
| 19 | 10403 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | 441 57 |

REPORT OF THE COMMISSIONERS OF

May—Continued.

TO PAY VOUCHER.

| Date | No. | Of | For | Amount. |
|------------|-------|--|-----|-------------|
| | 10404 | William Hardwick, | | |
| | | Services as Commissioner, in full to date... | \$ | 50 00 |
| 26 | 10405 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 127 68 |
| | 10406 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 445 04 |
| Total..... | | | | \$ 5,870 14 |

June.

TO PAY VOUCHER.

| Date | No. | Of | For | Amount. |
|------|-------|---|-----|---------|
| 1 | 10407 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | \$ | 855 00 |
| | 10408 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 876 66 |
| 2 | 10409 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 10 72 |
| | 10410 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 417 86 |
| 9 | 10411 | Consumers' Ice and Cold Storage Co., | | |
| | | Ice..... | | 1 40 |
| | 10412 | Held, Gorenflo & Co., | | |
| | | Advertising..... | | 1 50 |
| | 10413 | Hollands Manufacturing Co., | | |
| | | Tools..... | | 1 50 |
| | 10414 | Erie Window Glass Co., | | |
| | | Glass..... | | 1 75 |
| | 10415 | John H. Walker, | | |
| | | Stationery..... | | 2 00 |
| | 10416 | Brown & Thomas, | | |
| | | Iron Rail..... | | 2 40 |
| | 10417 | Times Publishing Company, | | |
| | | Advertising..... | | 2 70 |
| | 10418 | Wm. F. Nick & Son, | | |
| | | Paints..... | | 2 95 |
| | 10419 | The Flickinger Roofing and Cornice Co., Ltd., | | |
| | | Copper, Brass, Labor, Etc..... | | 3 00 |
| | 10420 | O. C. Thayer & Son, | | |
| | | Cement..... | | 3 29 |
| | 10421 | Erie Gas Company, | | |
| | | Coke..... | | 3 46 |
| | 10422 | A. S. Pinney, | | |
| | | Hardware and Tools..... | | 3 95 |
| | 10423 | Mehl & Sapper, | | |
| | | Hardware and Tools..... | | 5 11 |
| | 10424 | Herald Printing and Publishing Company, | | |
| | | Advertising and Stationery..... | | 5 50 |
| | 10425 | Erie Machine Shop, | | |
| | | Repairing Drinking Fountains... | | 5 80 |
| | 10426 | New York & Penn'a. Telephone and Telegraph Co., | | |
| | | Telephone Rental..... | | 6 00 |

June—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-----|---|-----|---------|
| 10427 | | A. J. Louch, | | |
| | | Window Awnings..... | \$ | 7 00 |
| 10428 | | Warfel & Arbuckle, | | |
| | | Horse Blankets..... | | 7 00 |
| 10429 | | J. M. Dunn, | | |
| | | Brick..... | | 7 80 |
| 10430 | | Standard Brick Works, | | |
| | | Brick..... | | 7 80 |
| 10431 | | Consumers' Brewing Co., | | |
| | | Meter Box, Iron Top..... | | 9 20 |
| 10432 | | Erie Company, | | |
| | | Electric Light Fixtures..... | | 9 28 |
| 10433 | | Union Oil Works, | | |
| | | Oil..... | | 9 59 |
| 10434 | | Franklin Coal Co., | | |
| | | Coal and Wood..... | | 10 25 |
| 10435 | | F. J. Hampel, | | |
| | | Repairing Electric Light Plant..... | | 12 30 |
| 10436 | | Wm. F. Schade, | | |
| | | Repairing Boilers and Engines, Etc..... | | 16 65 |
| 10437 | | Keystone Electric Company, | | |
| | | Arc Lamp Globes, Etc..... | | 17 50 |
| 10438 | | E. J. Riblet, | | |
| | | Shop Rent..... | | 20 00 |
| 10439 | | South Erie Iron Works, | | |
| | | Castings..... | | 20 08 |
| 10440 | | C. Kessler, | | |
| | | Soap, Brooms, Mops, Etc..... | | 20 40 |
| 10441 | | Lyman Felheim, | | |
| | | Meter Boxes and Wooden Plugs..... | | 23 81 |
| 10442 | | Union Water Meter Company, | | |
| | | Repairing Meters..... | | 24 50 |
| 10443 | | Pennsylvania Company, | | |
| | | Freight..... | | 42 70 |
| 10444 | | Erie Machine Shop, | | |
| | | Repairing Engines and Tools..... | | 45 34 |
| 10445 | | James L. Firman, | | |
| | | Teaming..... | | 56 86 |
| 10446 | | F. A. Mizener, | | |
| | | Coal..... | | 122 00 |
| 10447 | | Erie Oil Company, | | |
| | | Oil..... | | 144 30 |
| 10448 | | Meehan Boiler and Construction Co., | | |
| | | Painting Steel Plate Chimney No. 1..... | | 177 88 |
| 10449 | | Globe Iron Foundry Co., | | |
| | | Castings..... | | 193 61 |
| 10450 | | Hays Manufacturing Co., | | |
| | | Fittings..... | | 265 05 |
| 10451 | | Pittsburg Meter Co., | | |
| | | Water Meter Prover..... | | 296 06 |
| 10452 | | Erie Manufacturing and Supply Co., | | |
| | | Fittings, Valves, Waste, Etc..... | | 319 29 |
| 10453 | | Henry R. Worthington, | | |
| | | Hot Water Meter, Cylinder for Accumulator, Etc. | | 350 50 |

June—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|------------|-------|---|-----------------|-------------|
| | 10454 | | Not Issued. | |
| | 10455 | | Momeyer & Graf, | |
| | | | Coal..... | \$ 519 10 |
| | 10456 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 10 73 |
| | 10457 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 475 54 |
| 16 | 10458 | Jarecki Manufacturing Co. | | |
| | | Fittings..... | | 24 95 |
| | 10459 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 27 73 |
| | 10460 | F. P. Gill, | | |
| | | Pattern Work..... | | 37 63 |
| | 10461 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 500 88 |
| 23 | 10462 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 8 63 |
| | 10463 | Chas. F. Bengel, | | |
| | | Painting as per Contract. | | 80 00 |
| | 10464 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 525 96 |
| 30 | 10465 | Mrs. Orilla Block, | | |
| | | Washing Towels, 6 Months..... | | 6 00 |
| | 10466 | Henry Roehin, | | |
| | | Painting and Repairing Boats..... | | 20 00 |
| | 10467 | R. T. Walker, | | |
| | | Rent of Barn, 6 Months..... | | 30 00 |
| | 10468 | Mutual Telephone Company, | | |
| | | Rental of Telephones..... | | 36 00 |
| | 10469 | T. W. Shacklett, | | |
| | | Services as Commissioner, 2 Months..... | | 150 00 |
| | 10470 | Clark Olds, | | |
| | | Services as Commissioner, 2 Months..... | | 150 00 |
| | 10471 | G. F. Brevillier, | | |
| | | Services as Commissioner, 1½ Months.. | | 100 00 |
| | 10472 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 855 00 |
| | 10473 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 876 66 |
| | 10474 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 561 73 |
| Total..... | | | | \$ 9,445 84 |

July.

TO PAY VOUCHERS

| Date. | No. | Of | For | Amount. |
|-------|-------|--|-----|----------|
| 7 | 10475 | Pay Roll, Street work. | | |
| | | Disbursed by M. L. Whitley, Clerk..... | \$ | 528 83 |
| | 10476 | Raymond Lead Co., | | |
| | | Pig Lead..... | | 1,272 63 |
| 10 | 10477 | The Constable Bros. Co., | | |
| | | Labor and Material for Buildings, etc..... | | 311 03 |
| 14 | 10478 | Ashby & Vincent, | | |
| | | Book | | 1 50 |
| | 10479 | C. Kessler, | | |
| | | Vinegar Bbl., etc..... | | 1 52 |
| | 10480 | Keystone Electric Company, | | |
| | | Repairing Arc Lights..... | | 2 00 |
| | 10481 | Warner Bros., | | |
| | | Mats..... | | 2 50 |
| | 10482 | Enterprise Tea Co., | | |
| | | Rolled Oats and Burlaps..... | | 2 80 |
| | 10483 | H. F. Watson Co., | | |
| | | W. B. Covering | | 3 29 |
| | 10484 | Consumers' Ice Company, | | |
| | | Ice..... | | 3 75 |
| | 10485 | J. G. Schlindwein, | | |
| | | Repairing Harness..... | | 3 95 |
| | 10486 | Erie Chemical Co., | | |
| | | Pig Lead..... | | 4 00 |
| | 10487 | G. J. Gebhardt, | | |
| | | Wood | | 4 50 |
| | 10488 | H. C. Dunn, | | |
| | | Brick..... | | 6 50 |
| | 10489 | Herald Printing & Publishing Co., | | |
| | | Stationery | | 7 00 |
| | 10490 | Brown & Thomas, | | |
| | | Iron Rail..... | | 7 20 |
| | 10491 | A. S. Pinney, | | |
| | | Hardware and Tools..... | | 8 01 |
| | 10492 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 9 22 |
| | 10493 | The Erie Gas Company, | | |
| | | Coke..... | | 10 47 |
| | 10494 | Wm. F. Nick & Son, | | |
| | | Paint and Oil..... | | 10 60 |
| | 10495 | Mehl & Sapper, | | |
| | | Hardware and Tools..... | | 11 05 |
| | 10496 | Lyman Felheim, | | |
| | | Lumber and Wooden Plugs..... | | 11 46 |
| | 10497 | O. C. Thayer & Son, | | |
| | | Cement and Lime..... | | 13 31 |
| | 10498 | James McCrea & Co., | | |
| | | Steam Joint Clamps..... | | 13 50 |
| | 10499 | Standard Brick Works, | | |
| | | Brick..... | | 15 00 |
| | 10500 | A. P. Allen, | | |
| | | Oats..... | | 17 00 |
| | 10501 | Lake City Machine Shop, | | |
| | | Tools and Repairs..... | | 17 80 |
| | 10502 | The Fairbanks Company, | | |
| | | Check Valves..... | | 18 92 |

July—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|------------|-------|---|--------|-------------|
| | 10503 | Edison Construction & Supply Dept., | | |
| | | Repairing Electric Light Plant..... | \$ | 19 40 |
| | 10504 | Erie Window Glass Co., | | |
| | | Glass, Oil and Paint..... | | 19 63 |
| | 10505 | E. J. Riblet, | | |
| | | Shop Rent..... | | 20 00 |
| | 10506 | United States Cast Iron Pipe and Foundry Co., | | |
| | | Pipe and Specials..... | | 24 15 |
| | 10507 | Central Blacksmith Works, | | |
| | | Horseshoeing, etc..... | | 24 95 |
| | 10508 | Titus Berst, | | |
| | | Flower Beds..... | | 40 25 |
| | 10509 | James L. Firman, | | |
| | | Teaming..... | | 40 25 |
| | 10510 | The Holly Manufacturing Company, | | |
| | | Valve Cages, Cups and Rubbers..... | | 43 75 |
| | 10511 | W. E. Long, Collector, | | |
| | | Taxes in 6th Ward..... | | 59 75 |
| | 10512 | Erie Machine Shop, | | |
| | | Boiler and Engine Repairs..... | | 122 10 |
| | 10513 | Union Oil Works, | | |
| | | Oil..... | | 163 20 |
| | 10514 | Erie Mfg. & Supply Co., | | |
| | | Grease, Packing, Waste, etc..... | | 185 58 |
| | 10515 | Globe Iron Foundry Co., | | |
| | | Castings..... | | 197 50 |
| | 10516 | Union Water Meter Co., | | |
| | | Meters and Repairs..... | | 216 60 |
| | 10517 | Henry Herbst, Collector, | | |
| | | Taxes in 4th Ward..... | | 218 75 |
| | 10518 | Momeyer & Graf, | | |
| | | Coal..... | | 671 30 |
| | 10519 | Hays Manufacturing Co., | | |
| | | Fittings, Galv. Iron Pipe, etc..... | | 788 67 |
| | 10520 | Pay Roll, Street Work | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 589 61 |
| 21 | 10521 | Board of Commissioners of the Sinking Fund of the | | |
| | | City of Erie, | | |
| | | City of Erie—Board of Commissioners of the | | |
| | | Sinking Fund..... | 10,000 | 00 |
| | 10522 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 8 59 |
| | 10523 | Mayer Brothers, | | |
| | | Repairing Cuts in Pavements..... | | 68 03 |
| | 10524 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight..... | | 33 00 |
| | 10525 | Pennsylvania Company, | | |
| | | Freight..... | | 73 00 |
| | 10526 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 617 70 |
| 28 | 10527 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 551 10 |
| 30 | 10528 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y.... | | 905 00 |
| | 10529 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 876 66 |
| Total..... | | | | \$18,897 86 |

August.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|---|-----|---------|
| 4 | 10530 | Pennsylvania Rubber Co., | | |
| | | Valves..... | \$ | 1 99 |
| | 10531 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 14 09 |
| | 10532 | The Henesey Mfg. Co., | | |
| | | Leather Washers..... | | 15 68 |
| | 10533 | The Lake Shore & Michigan Southern Ry. Co., | | |
| | | Freight..... | | 17 10 |
| | 10534 | United States Cast Iron Pipe and Foundry Co., | | |
| | | Cast Iron Pipe..... | | 406 63 |
| | 10535 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 614 21 |
| 11 | 10536 | Gus J. Miller, | | |
| | | Soap, Hoof Oil and Brush..... | | 1 30 |
| | 10537 | Keystone Electric Company, | | |
| | | Repairing Arc Light..... | | 1 50 |
| | 10538 | Erie Sand and Gravel Co., | | |
| | | Sand..... | | 1 80 |
| | 10539 | A. S. Pinney, | | |
| | | Hardware and Tools..... | | 2 24 |
| | 10540 | Enterprise Tea Co., | | |
| | | Rolled Oats..... | | 2 50 |
| | 10541 | Hollands Manufacturing Co., | | |
| | | Tools..... | | 2 93 |
| | 10542 | Jarecki Manufacturing Co., | | |
| | | Fittings..... | | 3 27 |
| | 10543 | Lyman Felheim, | | |
| | | Wooden Plugs..... | | 3 36 |
| | 10544 | Consumers' Ice and Cold Storage Co., | | |
| | | Ice..... | | 3 40 |
| | 10545 | The Bristol Company, | | |
| | | Charts..... | | 4 50 |
| | 10546 | The Erie Gas Co., | | |
| | | Coke..... | | 4 99 |
| | 10547 | Central Blacksmith Works, | | |
| | | Horse Shoeing..... | | 5 00 |
| | 10548 | Emil Streuber, | | |
| | | Sole Leather..... | | 7 25 |
| | 10549 | Deming Bros., | | |
| | | Meter Boxes..... | | 9 00 |
| | 10550 | Mehl & Sapper, | | |
| | | Hardware and Tools..... | | 11 54 |
| | 10551 | Union Oil Works, | | |
| | | Oil..... | | 11 82 |
| | 10552 | Standard Brick Works, | | |
| | | Brick..... | | 12 00 |
| | 10553 | Wm. Schade, | | |
| | | Blacksmithing..... | | 14 18 |
| | 10554 | John Bright, | | |
| | | Old Rope..... | | 15 00 |
| | 10555 | E. J. Riblet, | | |
| | | Shop Rent..... | | 20 00 |
| | 10556 | H. C. Dunn, | | |
| | | Brick..... | | 26 00 |

August—Continued.**TO PAY VOUCHER.**

| Date. | No. | Of | For | Amount. |
|--------------|------------|---|--|----------------|
| | 10557 | The Himrod Engraving Company, | Stationery..... | \$ 28 75 |
| | 10558 | James McCrea & Co., | Steam Joint Clamps..... | 33 75 |
| | 10559 | Baas & Althof, | Railing..... | 35 35 |
| | 10560 | South Erie Iron Works, | Castings..... | 39 71 |
| | 10561 | O. C. Thayer & Son, | Cement and Clay..... | 42 23 |
| | 10562 | Ashby & Vincent, | Books and Stationery.... | 44 35 |
| | 10563 | James L. Firman, | Teaming..... | 47 79 |
| | 10564 | Erie Machine Shop, | Engine Repairs and Tools..... | 57 34 |
| | 10565 | Edison Electric Light and Power Co., | Fans and Wiring and Installing Same..... | 60 00 |
| | 10566 | Union Iron Works, | Tools..... | 62 43 |
| | 10567 | The J. L. Mott Iron Works, | Drinking Fountain..... | 89 00 |
| | 10568 | Erie Oil Company, | Oil..... | 162 12 |
| | 10569 | Globe Iron Foundry Co., | Castings..... | 174 65 |
| | 10570 | Erie Manufacturing and Supply Co., | Fittings, Grease, Packing, Etc..... | 217 24 |
| | 10571 | Hays Manufacturing Co., | Fittings, Valves, Etc..... | 321 44 |
| | 10572 | Union Water Meter Company, | Meters..... | 360 00 |
| | 10573 | H. B. Wyeth, Sales Agent, | Burrows' Registering Accountant..... | 375 00 |
| | 10574 | R. D. Wood & Co., | Fire Hydrants and Stop Valves..... | 607 00 |
| | 10575 | Momeyer & Graf, | Coal..... | 772 54 |
| | 10576 | United States Cast Iron Pipe and Foundry Co., | Cast Iron Pipe..... | 1,294 30 |
| | 10577 | Geo. C. Gensheimer, Ass't Sec'y, | Sundries..... | 28 12 |
| | 10578 | Henry Senger, | Cut Stone..... | 11 20 |
| | 10579 | A. P. Allen, | Oats and Straw..... | 17 92 |
| | 10580 | Library Bureau, | Filing Case..... | 64 25 |
| | 10581 | Alcatraz Paving Company, | Repairing Cuts in Pavements..... | 88 63 |
| | 10582 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk..... | 573 76 |
| 18 | 10583 | J. Allison Himrod, | Services on Intake No. 2..... | 5 00 |

August—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|------------|-------|------------------------|---|-------------|
| | 10584 | S. Alfred Baur, | Flowers at Reservoir..... | \$ 7 00 |
| | 10585 | Pay Roll, Street Work, | Disbursed by P. F. Weinheimer, Inspector..... | 573 66 |
| 25 | 10586 | Pay Roll, Street Work, | Disbursed by P. F. Weinheimer, Inspector..... | 584 31 |
| Total..... | | | | \$ 8,012 12 |

September.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|---------------------------------------|---|-----------|
| 1 | 10587 | The Smith Premier Typewriter Company, | Typewriter, Cabinet and Chair..... | \$ 146 25 |
| | 10588 | T. W. Shacklett, | Services as Commissioner, 2 Months..... | 150 00 |
| | 10589 | Clark Olds, | Services as Commissioner, 2 Months..... | 150 00 |
| | 10590 | G. F. Brevillier, | Services as Commissioner, 2 Months..... | 150 00 |
| | 10591 | Pay Roll, Office and Inspectors, | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | 876 66 |
| | 10592 | Pay Roll, Pumping Station, | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | 905 00 |
| | 10593 | Pay Roll, Street Work, | Disbursed by M. L. Whitley, Clerk..... | 588 29 |
| 8 | 10594 | Consumers' Ice and Cold Storage Co., | Ice..... | 1 40 |
| | 10595 | Hollands Manufacturing Co., | Tools..... | 1 48 |
| | 10596 | Jos. Jehle, | Rolled Oats..... | 1 50 |
| | 10597 | Keller & Nerz, | Cap Stone..... | 1 50 |
| | 10598 | Lyman Felheim, | Wooden Plugs..... | 2 94 |
| | 10599 | Central Blacksmith Works, | Horse Shoeing..... | 3 20 |
| | 10600 | Brown & Thomas, | Iron Rail (old)..... | 3 30 |
| | 10601 | Erie Window Glass Co., | Ruby Glass..... | 3 50 |
| | 10602 | Henry Senger, | Cut Stone..... | 4 25 |
| | 10603 | A. S. Pinney, | Hardware and Tools..... | 4 42 |
| | 10604 | Deming Bros., | Meter Box..... | 4 50 |
| | 10605 | Erie Company, | Coke..... | 5 48 |
| | 10606 | Edison Construction and Supply Dep't, | Repairs to Electric Light Plant..... | 5 57 |
| | 10607 | O. C. Thayer & Son, | Cement..... | 9 35 |

September—Continued.**TO PAY VOUCHER.**

| Date. | No. | Of | For | Amount. |
|--------------|------------|--|------------|----------------|
| | 10608 | Hand & Johnson Tug Line, | | |
| | | Towing Buoy for Intake No. 2.....\$ | 10 00 | |
| | 10609 | Mehl & Sapper, | | |
| | | Hardware and Tools..... | 10 28 | |
| | 10610 | Ashby & Vincent, | | |
| | | Books and Stationery..... | 10 60 | |
| | 10611 | H. C. Dunn, | | |
| | | Brick..... | 13 00 | |
| | 10612 | A. J. Louch, | | |
| | | Hose..... | 13 50 | |
| | 10613 | The J. L. Mott Iron Works, | | |
| | | Drinking Fountain..... | 16 50 | |
| | 10614 | Wm. F. Nick & Son, | | |
| | | Oil and Paint..... | 18 62 | |
| | 10615 | E. J. Riblet, | | |
| | | Shop Rent..... | 20 00 | |
| | 10616 | South Erie Iron Works, | | |
| | | Castings..... | 20 63 | |
| | 10617 | Alcatraz Paving Co., | | |
| | | Repairing Pavements..... | 35 91 | |
| | 10618 | Mayer Bros., | | |
| | | Repairing Pavements..... | 45 11 | |
| | 10619 | Henry R. Worthington, | | |
| | | Repairs to Engine No. 3..... | 52 90 | |
| | 10620 | Globe Iron Foundry Co., | | |
| | | Castings..... | 80 85 | |
| | 10621 | Erie Machine Shop, | | |
| | | Engine Repairs and Tools..... | 87 57 | |
| | 10622 | Union Water Meter Company, | | |
| | | Meter..... | 95 00 | |
| | 10623 | Union Oil Works, | | |
| | | Oil..... | 159 81 | |
| | 10624 | Erie Mfg. & Supply Co., | | |
| | | Grease, Packing, Waste, Tools, etc..... | 265 01 | |
| | 10625 | Hays Manufacturing Co., | | |
| | | Fittings, Curb Boxes, etc..... | 291 28 | |
| | 10626 | Momeyer & Graf, use W. L. Scott Company, | | |
| | | Coal..... | 918 58 | |
| | 10627 | J. H. Braggins, | | |
| | | Casing Steam Pipe..... | 3 31 | |
| | 10628 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | 26 46 | |
| | 10629 | James L. Firman, | | |
| | | Teaming..... | 49 49 | |
| | 10630 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | 496 49 | |
| 15 | 10631 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | 13 73 | |
| | 10632 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | 578 23 | |
| 22 | 10633 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | 4 69 | |
| | 10634 | Pennsylvania Company, | | |
| | | Freight..... | 64 60 | |

September—Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|------------|-------|--|-----|-------------|
| | 10635 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | \$ | 486 51 |
| 29 | 10636 | Geo. C. Gensheimer, Ass't Sec'y, Sundries..... | | 8 95 |
| | 10637 | Pennsylvania Company, Freight..... | | 66 15 |
| Total..... | | | | \$ 6,982 35 |

October.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|---|-----|---------|
| 1 | 10638 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | \$ | 592 47 |
| | 10639 | Pay Roll, Office and Inspectors, Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 889 66 |
| | 10640 | Pay Roll, Pumping Station, Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 905 00 |
| 6 | 10641 | Geo. C. Gensheimer, Ass't Sec'y, Sundries..... | | 21 17 |
| | 10642 | W. A. Tompkins, Repairing Boats..... | | 40 00 |
| | 10643 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | | 547 26 |
| 13 | 10644 | Lyman Felheim, Wooden Plugs..... | | 1 12 |
| | 10645 | The Builders Depot, Tile..... | | 1 36 |
| | 10646 | Harry Thompson, Dynamite Cap and Fuse..... | | 1 72 |
| | 10647 | Consumers' Ice and Cold Storage Co., Ice..... | | 1 75 |
| | 10648 | J. H. Braggins, Covering Steam Pipe..... | | 1 82 |
| | 10649 | Murphy Bros., Repairing Tools and Water Cooler.. | | 2 10 |
| | 10650 | A. S. Pinney, Hardware and Tools..... | | 2 33 |
| | 10651 | Kraft & Walther, Cement and Tile..... | | 2 34 |
| | 10652 | C. Flickinger, Brushes and Pails..... | | 3 30 |
| | 10653 | Deming Bros., Meter Box | | 4 50 |
| | 10654 | Franklin Coal Co., Wood..... | | 4 50 |
| | 10655 | New York & Penn'a. Telephone & Telegraph Co., Rental of Telephone..... | | 6 00 |
| | 10656 | Keystone Electric Company, Carbon Holders..... | | 6 30 |

October—Continued.

| TO PAY VOUCHER. | | | Amount. |
|-----------------|-------|---|---------|
| Date. | No. | Of For | |
| | 10657 | Held Brothers, Earth..... | \$ 6 30 |
| | 10658 | James McCrea & Co., Steam Joint Clamp..... | 6 75 |
| | 10659 | J. G. Schlindwein, Repairing Harness..... | 6 80 |
| | 10660 | Central Blacksmith Works, Horse Shoeing..... | 8 80 |
| | 10661 | O. C. Thayer & Son, Cement..... | 9 20 |
| | 10662 | Erie Company, Coke..... | 9 25 |
| | 10663 | H. C. Dunn Mgr., Brick..... | 14 30 |
| | 10664 | Herald Printing and Publishing Company, Stationery and Printing..... | 16 95 |
| | 10665 | A. P. Allen, Oats and Straw..... | 18 43 |
| | 10666 | E. J. Riblet, Shop Rent..... | 20 00 |
| | 10667 | C. Kessler, Brooms, Soap, Wicks, Etc..... | 20 55 |
| | 10668 | National Meter Company, Repairing Meter..... | 22 90 |
| | 10669 | John Bright, Old Rope..... | 24 00 |
| | 10670 | Mehl & Sapper, Hardware and Tools | 27 35 |
| | 10671 | Standard Brick Works, Brick..... | 27 60 |
| | 10672 | Erie Machine Shop, Repairing Engines..... | 34 34 |
| | 10673 | Mutual Telephone Co., Telephone Rental..... | 36 00 |
| | 10674 | South Erie Iron Works Meter Tops..... | 40 43 |
| | 10675 | James L. Firman, Teaming..... | 53 49 |
| | 10676 | Ashby & Vincent, Stationery and Printing..... | 63 50 |
| | 10677 | The Flickinger Roofing and Cornice Co., Ltd., Repairing Roof of Engine Houses..... | 67 00 |
| | 10678 | Erie Oil Company, Oil..... | 94 65 |
| | 10679 | Erie Manufacturing and Supply Co., Packing, Waste, Valves, Etc. | 117 80 |
| | 10680 | Globe Iron Foundry Co., Castings | 162 17 |
| | 10681 | Union Water Meter Company, Meters..... | 188 02 |
| | 10682 | Library Bureau, Ledger and Index Cards..... | 220 77 |
| | 10683 | Hays Manufacturing Co., Fittings..... | 223 61 |
| | 10684 | R. D. Wood & Co., Stop Valves..... | 363 00 |

October--Continued.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|------------|-------|--|-----------|-------------|
| | 10685 | Momeyer & Graf, use The W. L. Scott Company, | | |
| | | Coal | \$ 755 48 | |
| | 10686 | Library Bureau, | | |
| | | Index Cards..... | 18 25 | |
| | 10687 | Union Oil Works, | | |
| | | Oil..... | 85 85 | |
| | 10688 | Pittsburg Meter Co., | | |
| | | Repairing..... | 3 28 | |
| | 10689 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | 14 50 | |
| | 10690 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | 595 79 | |
| 20 | 10691 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | 5 07 | |
| | 10692 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk | 610 57 | |
| 27 | 10693 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | 20 82 | |
| | 10694 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | 586 46 | |
| Total..... | | | | \$ 7,634 73 |

November.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|-------|-------|---|-----------|---------|
| 1 | 10695 | T. W. Shacklett, | | |
| | | Services as Commissioner, 2 Months..... | \$ 150 00 | |
| | 10696 | Clark Olds, | | |
| | | Services as Commissioner, 2 Months..... | 150 00 | |
| | 10697 | G. F. Brevillier, | | |
| | | Services as Commissioner, 2 Months..... | 150 00 | |
| | 10698 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | 902 66 | |
| | 10699 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | 905 00 | |
| 3 | 10700 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | 19 97 | |
| | 10701 | James Vernon, | | |
| | | Stone Work..... | 129 60 | |
| | 10702 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | 573 53 | |
| 10 | 10703 | H. F. Watson Company, | | |
| | | 3 Ply Paper..... | 1 00 | |
| | 10704 | Consumers' Ice and Cold Storage Co., | | |
| | | Ice..... | 1 40 | |
| | 10705 | J. H. Braggins, | | |
| | | Cover for Valve..... | 1 47 | |
| | 10706 | Lyman Felheim, | | |
| | | Wooden Plugs.... | 2 80 | |
| | 10707 | C. C. Wicks, | | |
| | | Use of Launch..... | 3 00 | |

November—Continued.

| TO PAY VOUCHER. | | | | Amount |
|-----------------|-----|---|-----|--------|
| Date. | No. | Of | For | |
| 10708 | | Wm. F. Nick & Son, | | |
| | | Oil, Paint, Brush, Etc. | \$ | 3 54 |
| 10709 | | C. Flickinger, | | |
| | | Lanterns, Burners, Etc. | | 3 55 |
| 10710 | | Franklin Coal Co., | | |
| | | Wood | | 4 50 |
| 10711 | | Jarecki Manufacturing Co., | | |
| | | Fittings, Repairs to Hydrants..... | | 4 88 |
| 10712 | | C. Kessler, | | |
| | | Soap..... | | 5 00 |
| 10713 | | Deming Bros., | | |
| | | Meter Boxes..... | | 6 45 |
| 10714 | | H. C. Dunn, Mgr., | | |
| | | Brick..... | | 6 50 |
| 10715 | | Union Oil Works, | | |
| | | Oil..... | | 7 83 |
| 10716 | | Central Blacksmith Works, | | |
| | | Horse Shoeing..... | | 8 00 |
| 10717 | | Mehl & Sapper, | | |
| | | Hardware and Tools..... | | 8 68 |
| 10718 | | Thompson Meter Co., | | |
| | | Repairing Meter..... | | 9 02 |
| 10719 | | Erie Company, | | |
| | | Coke | | 9 15 |
| 10720 | | Carnegie Steel Company, | | |
| | | Structural Iron..... | | 9 87 |
| 10721 | | Edison Construction and Supply Department, | | |
| | | Repairs for Electric Light Plant..... | | 9 90 |
| 10722 | | Wm. E. Louch, | | |
| | | Hose and Canvas..... | | 11 00 |
| 10723 | | A. S. Pinney, | | |
| | | Hardware and Tools..... | | 11 75 |
| 10724 | | Standard Brick Works, | | |
| | | Brick..... | | 15 00 |
| 10725 | | O. C. Thayer & Son, | | |
| | | Cement and Tile..... | | 16 24 |
| 10726 | | A. P. Allen, | | |
| | | Oats and Hay..... | | 16 95 |
| 10727 | | Lake City Machine Shop, | | |
| | | Tools..... | | 20 00 |
| 10728 | | Baas & Althof, | | |
| | | Wire Cloth..... | | 20 18 |
| 10729 | | Hays Manufacturing Co., | | |
| | | Fittings and Pipe..... | | 20 75 |
| 10730 | | Keystone Electric Company, | | |
| | | Repairs to Electric Light Plant and Engine..... | | 29 00 |
| 10731 | | The Conard & Jones Company, | | |
| | | Plants | | 36 75 |
| 10732 | | James L. Firman, | | |
| | | Teaming..... | | 47 50 |
| 10733 | | Union Iron Works, | | |
| | | Tools..... | | 51 67 |
| 10734 | | Union Water Meter Company, | | |
| | | Repairing Meters..... | | 58 00 |

November—Continued.**TO PAY VOUCHER.**

| Date. | No. | Of For | Amount. |
|-------------------|------------|--|--------------------|
| | 10735 | Jones & Laughlins, Ltd., Tools.....\$ | 70 17 |
| | 10736 | Stearns Manufacturing Co., Grinding Plunger..... | 75 60 |
| | 10737 | Erie Oil Company, Oil..... | 78 16 |
| | 10738 | National Carbon Co., Carbons..... | 81 67 |
| | 10739 | Erie Machine Shop, Engine Repairs and Tools..... | 96 29 |
| | 10740 | Globe Iron Foundry Co., Castings..... | 108 35 |
| | 10741 | Erie Mfg. and Supply Co., Gaskets, Grease, Waste, Packing, Etc..... | 121 55 |
| | 10742 | The Constable Bros. Co., Repairs to Buildings, Etc..... | 181 08 |
| | 10743 | United States Cast Iron Pipe and Foundry Company, Pipe and Specials..... | 222 47 |
| | 10744 | Library Bureau, Cards, Desk and Truck..... | 250 95 |
| | 10745 | Momeyer & Graf, use The W. L. Scott Company, Coal..... | 442 49 |
| | 10746 | Not Issued. | |
| | 10747 | E. J. Riblet, Shop Rent..... | 20 00 |
| | 10748 | Erie City Iron Works, Repairs for Boilers..... | 18 50 |
| | 10749 | Henry R. Worthington, Leather Faced Valves..... | 52 65 |
| | 10750 | Geo. C. Gensheimer, Ass't Sec'y, Sundries..... | 9 21 |
| | 10751 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | 549 21 |
| | 10752 | Board of Commissioners of the Sinking Fund of the City of Erie, City of Erie, Board of Commissioners of the Sinking Fund..... | 5,000 00 |
| | 10753 | Paul Schendler, Cutting Stone..... | 1 50 |
| 17 | 10754 | Geo. C. Gensheimer, Ass't Sec'y, Sundries..... | 24 84 |
| | 10755 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | 519 11 |
| 24 | 10756 | Geo. C. Gensheimer, Ass't Sec'y, Sundries..... | 21 41 |
| | 10757 | Erie Painting and Decorating Company, John Kra- mer, Manager, Painting Reservoir House..... | 57 00 |
| | 10758 | Pay Roll, Street Work, Disbursed by M. L. Whitley, Clerk..... | 499 61 |
| | 10759 | Michael McMahon, Old Rope..... | 30 90 |
| Total..... | | | \$11,974 81 |

December.

TO PAY VOUCHER.

| Date. | No. | Of | For | Amount. |
|------------|-------|---|-----|--------------|
| 1 | 10760 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | \$ | 12 13 |
| | 10761 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 398 72 |
| | 10762 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 902 66 |
| | 10763 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 905 00 |
| 8 | 10764 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 481 00 |
| 15 | 10765 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 4 61 |
| | 10766 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 377 80 |
| 19 | 10767 | Mrs. Orilla Block, | | |
| | | Washing Towels..... | | 6 00 |
| | 10768 | Isadore Sobel, Postmaster, | | |
| | | Postage Stamps..... | | 100 00 |
| | 10769 | T. W. Shacklett, | | |
| | | Services as Commissioner, 2 Months..... | | 150 00 |
| | 10770 | Clark Olds, | | |
| | | Services as Commissioner, 2 Months..... | | 150 00 |
| | 10771 | G. F. Brevillier, | | |
| | | Services as Commissioner, 2 Months..... | | 150 00 |
| | 10772 | Pay Roll, Office and Inspectors, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 902 74 |
| | 10773 | Pay Roll, Pumping Station, | | |
| | | Disbursed by Geo. C. Gensheimer, Ass't Sec'y... | | 905 00 |
| 22 | 10774 | Chas. Schuhart, | | |
| | | Water Rent, Returned..... | | 8 20 |
| | 10775 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 208 07 |
| 29 | 10776 | Geo. C. Gensheimer, Ass't Sec'y, | | |
| | | Sundries..... | | 4 25 |
| | 10777 | Pay Roll, Street Work, | | |
| | | Disbursed by M. L. Whitley, Clerk..... | | 197 06 |
| | 10778 | Board of Commissioners of the Sinking Fund of the | | |
| | | City of Erie, | | |
| | | City of Erie—Board of Commissioners of the | | |
| | | Sinking Fund..... | | 8,000 00 |
| Total..... | | | | \$ 13,863 24 |

RECAPITULATION, 1900.

| Number Vouchers Issued. | MONTH. | AMOUNTS. |
|-------------------------------|----------------|---------------|
| 50 | January..... | \$ 11,125 64 |
| 46 | February..... | 14,729 09 |
| 35 | March..... | 2,414 52 |
| 53 | April..... | 13,810 77 |
| 41 | May..... | 5,870 14 |
| 68 | June | 9,445 84 |
| 55 | July..... | 18,897 86 |
| 57 | August..... | 8,012 12 |
| 51 | September..... | 6,982 35 |
| 57 | October..... | 7,634 73 |
| 65 | November.... | 11,974 81 |
| 19 | December..... | 13,863 24 |
| 597 | Total..... | \$ 124,761 11 |

DISBURSEMENTS.

| DEPARTMENT. | ACCOUNT. | FOR THE YEAR 1900. | | | From Beginning of Works to December 31, 1900. |
|---------------|--|--------------------|-----------|-----------|---|
| | | Labor. | Material. | Total. | |
| Construction. | Advertising, Books, S. & P. | a \$ 1 13 | \$ 40 92 | \$ 42 05 | 691 18 |
| | Boiler No. 1. | g 27 | 9 74 | 10 01 | 2,335 23 |
| | Boiler No. 2. | g 27 | 9 75 | 10 02 | 2,335 38 |
| | Boiler No. 3. | g 27 | 9 74 | 10 01 | 2,335 28 |
| | Boiler No. 4. | g 27 | 9 75 | 10 02 | 2,335 41 |
| | Boiler No. 5. | g 27 | 9 74 | 10 01 | 2,312 83 |
| | Boiler No. 6. | g 27 | 9 75 | 10 02 | 2,312 95 |
| | Boiler No. 7. | g 27 | 9 74 | 10 01 | 2,313 26 |
| | Boiler No. 8. | g 27 | 9 75 | 10 02 | 2,324 23 |
| | Boiler House. | | | | 15,826 24 |
| | Buildings and Grounds. | 73 22 | 8 38 | 81 60 | 95,192 66 |
| | Civil Engineering. | | | | 8,554 80 |
| | Connections. | 2,387 25 | 1,605 88 | 3,993 13 | 127,192 82 |
| | Drinking Fountains. | d 30 65 | 132 94 | 163 59 | 1,740 67 |
| | Electric Light Plant. | a | | | 5,613 64 |
| | Engines and Boilers to December 31, 1891. | | | | 96,715 79 |
| | Engine No. 4. | b | | | 48,441 43 |
| | Engine No. 5. | h 733 34 | 15,196 15 | 15,929 49 | 33,568 49 |
| | Engine House No. 3. | b | | | 21,413 19 |
| | Engine Room Furniture and Fixtures. | | | | 1,679 55 |
| | Expense. | a 3 85 | 14 25 | 14 64 | 403 28 |
| | Fire Hydrants. | a 237 66 | 1,162 97 | 1,400 63 | 29,960 14 |
| | Fuel. | a 56 | 20 36 | 20 92 | 284 94 |
| | Gas Well. | | | | 8,148 59 |
| | High Service System. | h 144 46 | 335 18 | 469 64 | 48,768 09 |
| | H. S. S. Stand Pipe No. 2, Iron Work. | i | | | 47 02 |

| Construction. | | | | | |
|--|----------------|----------|-----------|-----------|------------|
| H. S. S. Stand Pipe No. 2, Stone Work..... | <i>i</i> | 58 08 | 187 80 | 245 88 | 40 22 |
| Horse, Wagon and Cartage..... | | | | | 5,451 30 |
| Intake Pipe No. 1..... | <i>b</i> | | | | 49,474 39 |
| Intake Pipe No. 2..... | | | | | 140,971 03 |
| Interest and Discount..... | | | | | 99,420 95 |
| Light, Oil, Lamps, Wicks, Etc..... | <i>a</i> | 58 | 20 63 | 21 21 | 285 57 |
| Lowering Mains..... | | 2,129 31 | | 2,129 31 | 4,295 22 |
| Mains and Branches..... | | 8,052 29 | 10,817 69 | 18,869 98 | 603,928 09 |
| Main 30-inch..... | | | | | 75,956 60 |
| Meters..... | | 320 11 | 2,138 36 | 2,458 47 | 23,322 19 |
| Office Furniture and Fixtures..... | <i>a</i> | 22 47 | 794 84 | 817 31 | 2,450 73 |
| Oil and Tallow..... | <i>b</i> | 56 | 20 23 | 20 79 | 52 25 |
| Park Fountains..... | | | | | 3,244 68 |
| Railroad Switch and Scales..... | | | | | 2,918 92 |
| Reservoir..... | | | | | 123,150 83 |
| Shop Rent..... | <i>a</i> | 2 80 | 101 22 | 104 02 | 1,141 11 |
| Steel Plate Chimney No. 1..... | <i>g</i> | | | | 4,177 53 |
| Stop Valves..... | | 394 51 | 1,970 69 | 2,365 20 | 40,127 69 |
| Superintendent's Stores..... | | | | | 217 05 |
| Telephone and Telegraph..... | <i>a</i> | 03 | 1 15 | 1 18 | 24 04 |
| Tools and Repairs..... | | 384 05 | 8 75 | 392 80 | 6,288 02 |
| Tools—Coal Elevator and Conveyor..... | <i>j</i> | 190 30 | 280 68 | 470 98 | 470 98 |
| Tools—Meter Prover..... | | 83 66 | 361 66 | 445 32 | 445 32 |
| Waste and Packing..... | <i>g</i> | | | | 5 20 |
| Water Lots..... | <i>e</i> | 3 66 | 132 34 | 136 00 | 15,987 29 |
| Advertising, Books, S & P..... | <i>a</i> | 10 | 3 71 | 3 81 | 518 19 |
| Boilers to March 5, 1898..... | | | | | 24,501 08 |
| Boiler No. 1..... | <i>h</i> | 71 78 | 124 31 | 196 09 | 412 09 |
| Boiler No. 2..... | <i>h</i> | 73 43 | 131 93 | 205 36 | 440 38 |
| Boiler No. 3..... | <i>h</i> | 73 73 | 124 83 | 198 56 | 418 31 |
| Boiler No. 4..... | <i>h</i> | 74 55 | 129 49 | 204 04 | 424 26 |
| Boiler No. 5..... | <i>h</i> | 51 36 | 113 19 | 164 55 | 369 24 |

a Accounts opened in 1891. *b* Accounts opened in 1892. *c* Accounts opened in 1893. *d* Accounts opened in 1894.

e Accounts opened in 1895. *f* Accounts opened in 1896. *g* Accounts opened in 1897. *h* Accounts opened in 1898. *i* Accounts opened in 1899.

j Accounts opened in 1900.

Maintenance.

DISBURSEMENTS.—Continued.

| DEPARTMENT. | ACCOUNT. | FOR THE YEAR 1900. | | | From Beginning of Works to December 31, 1900. |
|--------------|---|--------------------|-----------|----------|---|
| | | Labor. | Material. | Total. | |
| Maintenance. | Boiler No. 6..... | h \$ 55 98 | 114 26 | 170 24 | 393 42 |
| | Boiler No. 7..... | h 55 58 | 109 16 | 164 74 | 350 55 |
| | Boiler No. 8..... | h 72 18 | 106 92 | 179 10 | 367 68 |
| | Boiler House..... | h 11 90 | 47 24 | 59 14 | 463 57 |
| | Buildings and Grounds..... | a 1,308 46 | 364 54 | 1,673 00 | 11,566 04 |
| | Connections..... | a 2,350 67 | 1,406 37 | 3,757 04 | 17,889 97 |
| | Drinking Fountains..... | d 17 30 | 10 64 | 27 94 | 253 30 |
| | Electric Light House..... | c 7 67 | 8 49 | 16 16 | 3,547 93 |
| | Electric Light Plant..... | b 22 35 | 166 43 | 188 78 | 1,240 33 |
| | Engines to December 31, 1892..... | c..... | ..... | ..... | 13,402 04 |
| | Engine No. 1..... | c..... | ..... | ..... | 144 73 |
| | Engine No. 2..... | c..... | ..... | ..... | 470 24 |
| | Engine No. 3..... | c 116 89 | 704 38 | 821 27 | 2,005 42 |
| | Engine No. 4..... | d 209 20 | 1,044 31 | 1,253 51 | 4,784 68 |
| | Engine No. 5..... | i 119 17 | 426 44 | 545 61 | 707 32 |
| | Engine House No. 1..... | c 7 60 | 117 95 | 125 55 | 1,810 09 |
| | Engine House No. 2..... | c 42 46 | 172 21 | 214 67 | 8,029 33 |
| | Engine House No. 3..... | c 114 39 | 91 19 | 205 58 | 1,860 63 |
| | Engine Room Furniture and Fixtures..... | a 1 59 | 57 60 | 59 19 | 432 38 |
| | Expense..... | a 3 84 | 76 | 4 60 | 368 52 |
| | Fire Hydrants..... | a 385 25 | 38 25 | 423 50 | 3,481 29 |
| | Fuel..... | a 56 | 20 37 | 20 93 | 239 71 |
| | High Service System..... | i 1 47 | 52 97 | 54 44 | 91 93 |
| | Horse, Wagon and Cartage..... | 57 90 | 187 85 | 245 75 | 5,526 54 |
| | Intake Pipe No. 1..... | a 51 | 18 35 | 18 86 | 165 26 |
| | Intake Pipe No. 2..... | i 18 85 | 1 44 | 20 29 | 31 13 |

WATER WORKS, IN THE CITY OF ERIE.

41

Maintenance.

| | | | | | |
|------------------------------------|---|----------|----------|----------|------------|
| Light, Oil, Lamps, Wicks, Etc..... | a | 52 | 18 78 | 19 30 | 180 09 |
| Mains and Branches..... | a | 1,301 77 | 331 89 | 1,633 66 | 24,965 14 |
| Main 30 inch..... | a | | | | 910 49 |
| Meters..... | a | 167 37 | 309 03 | 476 40 | 6,417 76 |
| Office Furniture and Fixtures..... | a | 9 13 | 209 94 | 219 07 | 823 68 |
| Oil and Tallow..... | b | 13 | 4 86 | 4 99 | 26 27 |
| Railroad Switch and Scales..... | a | 4 60 | | 4 60 | 1,186 34 |
| Reservoir..... | a | 244 03 | 100 81 | 344 84 | 35,994 71 |
| Shop Rent..... | a | 2 80 | 101 22 | 104 02 | 1,140 87 |
| Stand Pipe..... | c | 9 18 | 5 67 | 14 85 | 4,252 82 |
| Steel Plate Chimney No. 1..... | h | 21 67 | 180 30 | 201 97 | 203 32 |
| Stop Valves..... | h | 223 66 | 85 31 | 308 97 | 6,313 22 |
| Superintendent's Stores..... | | | | | 396 52 |
| Telephone and Telegraph..... | j | 01 | 52 | 53 | 53 |
| Tools and Repairs..... | j | 423 72 | 691 63 | 1,115 35 | 9,116 60 |
| Waste and Packing..... | b | 28 | 10 24 | 10 52 | 61 83 |
| Advertising, Books, S. & P..... | a | 77 | 27 68 | 28 45 | 1,657 91 |
| Buildings and Grounds..... | b | 1,192 09 | | 1,192 09 | 10,931 69 |
| Drinking Fountains..... | g | 123 32 | | 123 32 | 421 23 |
| Electric Light..... | h | 4 67 | 168 97 | 173 64 | 335 19 |
| Electric Light Plant..... | b | | | | 34 84 |
| Engineers and Firemen..... | | | | | 153,871 20 |
| Engineers' Stores..... | | 8 904 01 | | 8,904 01 | 2,348 57 |
| Expense..... | a | 34 | 12 50 | 12 84 | 1,139 06 |
| Fire Hydrants..... | b | 400 96 | | 400 96 | 1,828 20 |
| Flushing Sewers..... | g | 4 41 | | 4 41 | 41 58 |
| Fuel..... | g | 198 81 | 7,186 22 | 7,385 03 | 181,154 83 |
| Horse, Wagon and Cartage..... | d | | | | 54 81 |
| Inspectors..... | c | 2,586 86 | | 2,586 86 | 19,412 45 |
| Insurance..... | | 70 | 25 30 | 26 00 | 1,605 77 |
| Light, Oil, Lamps, Wicks, Etc..... | a | 90 | 32 75 | 33 05 | 542 62 |
| Machinist..... | j | 1,109 88 | | 1,109 88 | 1,109 88 |

a Accounts opened in 1891. b Accounts opened in 1892. c Accounts opened in 1893. d Accounts opened in 1894.

e Accounts opened in 1895. f Accounts opened in 1897. g Accounts opened in 1898. h Accounts opened in 1899.

j Accounts opened in 1900.

Operating.

DISBURSEMENTS—Continued.

| DEPARTMENT. | ACCOUNT. | FOR THE YEAR 1900. | | | From Beginning of Works to December 31, 1900. |
|-------------|--|--------------------|--------------|---------------|---|
| | | Labor. | Material. | Total. | |
| Operating. | Meters..... | b \$ 339 13 | \$ 339 13 | 339 13 | 4,233 91 |
| | Oil and Tallow..... | 48 50 | 1,753 08 | 1,801 58 | 18,413 59 |
| | Rent of Office..... | b 67 | 24 43 | 25 10 | 628 19 |
| | Reservoir..... | b 493 28 | | 493 28 | 4,277 70 |
| | Stop Valves..... | c 132 01 | | 132 01 | 564 63 |
| | Taxes—U. S., State, County and School..... | 7 80 | 281 89 | 289 69 | 2,991 17 |
| | Telephone and Telegraph..... | a 3 53 | 127 53 | 131 06 | 1,780 31 |
| | Tools and Repairs..... | a | | | 946 02 |
| | Turning On and Off Water..... | g 173 77 | | 173 77 | 1,093 87 |
| | Waste and Packing..... | 21 49 | 776 82 | 798 31 | 8,844 99 |
| Accounting | Water Rent Returned..... | 61 | 21 93 | 22 54 | 1,126 62 |
| | Advertising, Books, S. & P..... | 18 70 | 676 14 | 694 84 | 11,608 09 |
| | Expense..... | 83 | 29 86 | 30 69 | 14,993 51 |
| | Postage..... | 12 26 | 443 25 | 455 51 | 7,495 27 |
| | Salaries..... | 7,636 59 | | 7,636 59 | 205,934 24 |
| Sundries. | City of Erie, Board of Com. of the Sinking Fund..... | | 23,000 00 | 23,000 00 | 168,500 00 |
| | City of Erie..... | | | | 19 23 |
| Legal. | Court Costs..... | | | | 478 40 |
| | Counsel Fees..... | | | | 4,276 86 |
| | Damages..... | j | 395 63 | 395 63 | 395 63 |
| | Expense..... | | | | 189 02 |
| | Total..... | \$ 46,409 56 | \$ 78,351 55 | \$ 124,761 11 | \$82,800,583 14 |

a Accounts opened in 1891. *b* Accounts opened in 1892 *c* Accounts opened in 1893. *d* Accounts opened in 1894.

e Accounts opened in 1895. *f* Accounts opened in 1897. *g* Accounts opened in 1898. *h* Accounts opened in 1899.

i Accounts opened in 1900.

j Accounts opened in 1900.

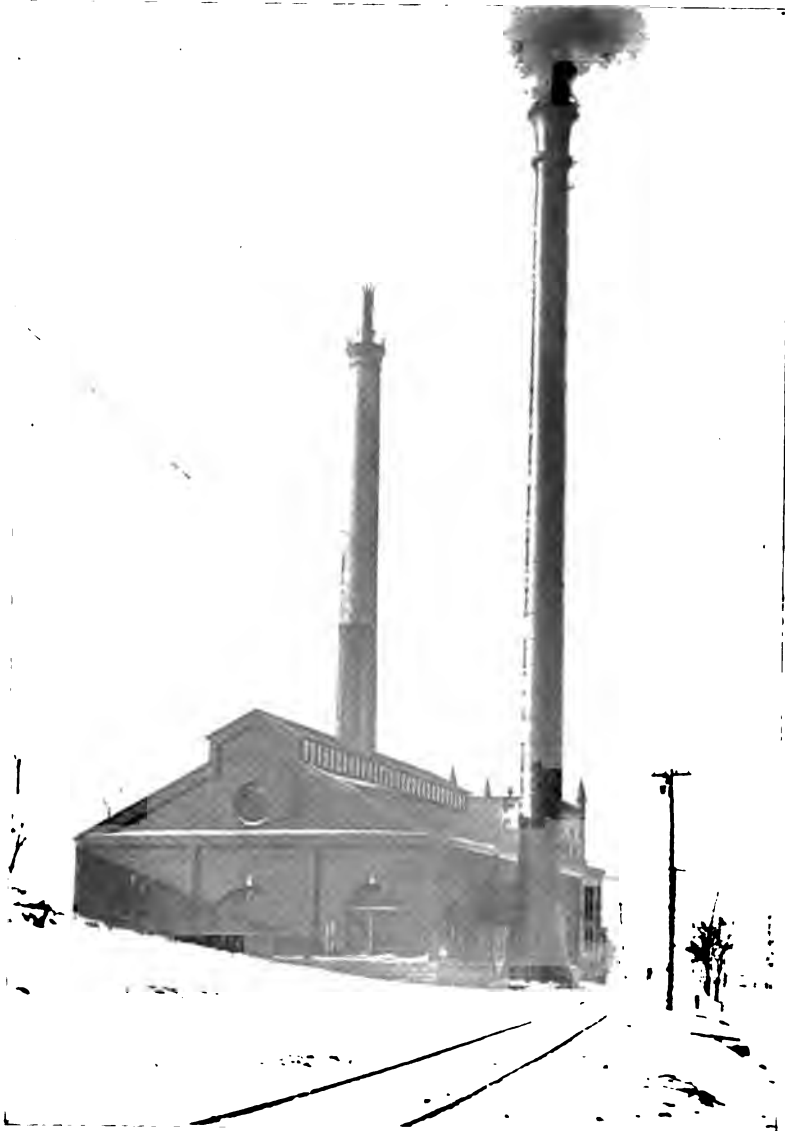
RECAPITULATION.

| DEPARTMENT. | FOR THE YEAR 1900. | | | | From Beginning of Works to Dec. 31, 1900. |
|-------------------|--------------------|--------------|--------------|---------------|--|
| | Pro-Rata. | Labor. | Material. | Total. | |
| Construction..... | .462072+ | \$ 15,257 08 | \$ 35 421 79 | \$ 50,678 87 | \$ 1,766,994 29 |
| Maintenance..... | .1256011+ | 7,735 59 | 7,945 78 | 15,681 37 | 198,697 77 |
| Operating..... | .2099020+ | 15,748 51 | 10,439 10 | 26,187 61 | 421,390 83 |
| Accounting..... | .0706761+ | 7,668 38 | 1,149 25 | 8,817 63 | 239,941 11 |
| Sundries..... | .1843523+ | ..... | 23 000 00 | 23,000 00 | 168,519 23 |
| Legal..... | .0031711+ | ..... | 395 63 | 395 63 | 5,339 91 |
| Totals..... | .9999998+ | \$ 46,409 56 | \$ 78,351 55 | \$ 124,761 11 | \$ 2,800,583 14 |

Amount of Coal Consumed in Pumping, Gallons of Water Pumped, Average Height Pumped, Cost per Million Gallons, Etc., from First Year Works were operated to December 31, 1900.

| YEAR. | Tons Coal Consumed. | Cost Coal from Jan. 1 to Dec. 31. | Grades of Bituminous Coal. | Gallons of Water Pumped. | Increase or Decrease. | Number of places supplied. | No. of Fire Hydrants. | Average height of Water in Reservoir above surface of Bay. | Cost Coal per million gallons raised to Reservoir. | Gallons raised to Reservoir by one pound of Coal. |
|-----------|---------------------|-----------------------------------|----------------------------|--------------------------|-----------------------|----------------------------|-----------------------|--|--|---|
| 1868..... | 591 1 | \$ 309 61 | Lump. | 246,648,960 | | 1,218 | 97 | 232 0 | | |
| 1869..... | 544 4 | 4,818 48 | " | 279,368,495 | 32,719,535 i | 1,727 | 99 | 232 0 | \$18 76 | 98 5 |
| 1870..... | 1,064 5 | 5,159 10 | " | 395,076,000 | 115,707,505 i | 2,140 | 103 | 232 0 | 16 52 | 150 9 |
| 1871..... | 1,422 7 | 7,117 00 | " | 384,002,415 | 11,013,585 d | 2,475 | 107 | 232 0 | 21 90 | 114 8 |
| 1872..... | 1,308 5 | 6,528 50 | " | 444,817,395 | 60,754,980 i | 2,663 | 107 | 232 0 | 17 38 | 126 4 |
| 1873..... | 1,672 5 | 8,412 65 | " | 531,005,475 | 86,188,080 i | 2,700 | 110 | 232 0 | 16 30 | 145 5 |
| 1874..... | 1,759 0 | 7,709 54 | " | 670,726,650 | 139,721,175 i | 2,763 | 112 | 232 0 | 13 30 | 159 3 |
| 1875..... | 1,836 4 | 8,657 61 | " | 660,981,810 | 9,744,840 d | 2,854 | 114 | 232 0 | 12 75 | 135 7 |
| 1876..... | 1,105 1 | 8,925 22 | " | 682,392,315 | 21,410,505 i | 3,011 | 121 | 232 0 | 11 64 | 136 4 |
| 1877..... | 2,456 6 | 8,599 33 | " | 807,800,400 | 125,408,085 i | 3,568 | 126 | 232 0 | 8 99 | 153 6 |
| 1878..... | 2,463 3 | 7,945 37 | " | 775,805,250 | 31,995,150 d | 3,011 | 121 | 232 0 | 6 68 | 126 0 |
| 1879..... | 2,628 1 | 7,428 92 | Slack. | 975,640,934 | 219,835,684 i | 4,687 | 171 | 234 0 | 6 45 | 142 2 |
| 1880..... | 3,076 1 | 6,978 41 | " | 829,759,260 | 145,881,674 d | 4,687 | 171 | 234 0 | 4 66 | 139 7 |
| 1881..... | 3,430 3 | 6,517 58 | " | 815,939,685 | 13,819,575 d | 5,077 | 197 | 234 7 | 4 99 | 170 0 |
| 1882..... | 2,968 2 | 5,355 93 | " | 917,781,350 | 101,841,665 i | 5,395 | 248 | 234 3 | 4 40 | 152 4 |
| 1883..... | 2,398 2 | 3,908 59 | " | 1,036,496,665 | 118,715,315 i | 5,658 | 270 | 232 9 | 3 86 | 159 7 |
| 1884..... | 3,010 8 | 4,502 61 | " | 1,117,389,075 | 80,892,410 i | 6,140 | 280 | 233 3 | 2 95 | 165 8 |
| 1885..... | 3,243 8 | 4,575 79 | " | 1,218,213,688 | 100,824,613 i | 6,368 | 318 | 234 1 | 1 89 | 216 0 |
| 1886..... | 3,369 0 | 4,318 64 | " | 1,341,708,002 | 123,494,314 i | 6,600 | 333 | 234 6 | 1 80 | 192 1 |
| 1887..... | 2,820 4 | 3,589 31 | " | 1,475,358,220 | 133,650,218 i | 7,086 | 346 | 235 2 | 1 81 | 301 5 |
| 1888..... | 2,392 3 | 2,545 46 | " | 1,659,625,551 | 184,267,331 i | 7,728 | 372 | 236 9 | 2 18 | 322 4 |
| 1889..... | 2,446 0 | 2,661 12 | " | 1,807,038,580 | 147,413,029 i | 8,255 | 393 | 237 3 | 2 35 | 291 42 |
| 1890..... | 2,583 6 | 3,052 89 | " | 2,047,993,505 | 240,954,925 i | 8,998 | 415 | 237 4 | 2 66 | 279 43 |
| 1891..... | 3,120 7 | 3,941 53 | " | 2,333,638,610 | 285,645,105 i | 9,680 | 444 | 236 5 | 2 43 | 248 6 |
| 1892..... | 3,658 0 | 4,807 11 | " | 1,816,596,518 | 517,042,092 d | 10,680 | 479 | 236 6 | 2 21 | 306 8 |
| 1893..... | 4,693 5 | 6,218 95 | " | 1,975,396,305 | 158,797,787 i | 10,680 | 489 | 237 2 | 2 21 | 278 62 |
| 1894..... | 2,960 0 | 4,423 59 | " | 2,005,757,728 | 30,361,423 i | 10,846 | 514 | 237 6 | 1 796 | 328 17 |
| 1895..... | 3,541 5 | 4,377 16 | " | 2,215,416,770 | 209,659,042 i | 11,385 | 523 | 235 9 | 2 034 | 331 75 |
| 1896..... | 3,056 0 | 3,603 28 | Miscel's. | 2,270,520,528 | 55,103,758 i | 11,739 | 543 | 235 6 | * 1 68 | 363 98 |
| 1897..... | 3,338 2 | 4,507 52 | Slack. | 2,722,322,604 | 451,802,076 i | 11,932 | 595 | 235 48 | * 1 701 | 316 408 |
| 1898..... | 3,815 68 | 5,815 68 | " | 3,124,440,644 | 402,118,040 i | 12,451 | 595 | 235 46 | 2 318 | 315 887 |
| 1899..... | 3,819 1 | 4,633 06 | " | | | | | | | |
| 1900..... | 5,285 9 | 7,754 34 | " | | | | | | | |

* HIGH SERVICE SYSTEM comprises all the territory south of Nineteenth street. In this district the average lift in feet for 1900 was 291.22. See Pumping Statistics.



NEW BOILER HOUSE, AND SELF-SUSTAINING STEEL PLATE CHIMNEY.

BALANCE SHEET—INDIVIDUAL LEDGERS.

1900.

ASSESSED ACCOUNTS.

| Ward. | Balance from Dec 31, 1899. | Assessments. | Additions. | Penalties. | Balance to Jan. 1, 1901. | Total. | Balance from Dec 31, 1899. | Deductions. | Cash. | Balance to Jan. 1, 1901. |
|------------|-------------------------------|--------------|------------|------------|-----------------------------|--------------|-------------------------------|-------------|--------------|-----------------------------|
| 1 | \$ 80 93 | \$ 14,062 46 | \$ 931 01 | \$ 77 31 | \$ 79 87 | \$ 15,231 58 | \$ 44 51 | \$ 1,581 26 | \$ 13,549 52 | \$ 56 29 |
| 2 | 58 17 | 20,845 76 | 1,000 60 | 79 45 | 28 23 | 22,012 31 | 76 18 | 781 39 | 21,092 48 | 62 16 |
| 3 | 57 47 | 23,850 40 | 989 51 | 75 77 | 33 04 | 25,006 19 | 61 47 | 1,187 96 | 23,678 94 | 77 82 |
| 4 | 61 61 | 19,923 42 | 766 47 | 77 87 | 73 34 | 20,902 71 | 59 84 | 1,889 14 | 18,894 56 | 59 17 |
| 5 | 50 04 | 9,550 34 | 574 00 | 44 57 | 24 69 | 10,243 64 | 36 96 | 516 12 | 9,620 17 | 70 39 |
| 6 | 47 19 | 11,228 30 | 552 22 | 48 94 | 14 01 | 11,890 66 | 31 71 | 492 43 | 11,331 25 | 35 47 |
| 7 | 43 62 | 927 23 | 68 39 | 7 18 | 1 55 | 1,047 97 | 78 | 162 67 | 881 05 | 3 47 |
| Total..... | \$ 399 03 | \$100 387 91 | \$4,882 20 | \$ 411 09 | \$ 254 73 | \$106,334 96 | \$ 311 45 | \$ 6,610 97 | \$ 99,047 97 | \$ 364 57 |

METER ACCOUNTS.

| | | | | | | | | | | |
|------------|------------|-------------|-----------|-----------|---------|--------------|-----------|-----------|--------------|------------|
| 1 | \$ 259 42 | \$ 2,737 67 | \$ 3 65 | \$ 6 98 | ..... | \$ 3,007 72 | \$ 17 92 | \$ 223 31 | \$ 2,104 98 | \$ 661 51 |
| 2 | 1,577 04 | 11,761 98 | 51 20 | 74 62 | 1 20 | 13,466 04 | ..... | 12 20 | 10,519 10 | 2,934 74 |
| 3 | 826 30 | 5,597 76 | 34 12 | 43 53 | 1 34 | 6,503 05 | 3 40 | 43 88 | 4,920 95 | 1,534 82 |
| 4 | 160 78 | 1,472 17 | 37 | 6 70 | ..... | 1,640 02 | 24 49 | 25 50 | 1,186 47 | 403 56 |
| 5 | 317 01 | 2,782 81 | 21 34 | 14 42 | ..... | 3,135 58 | 103 64 | ..... | 2,384 81 | 647 13 |
| 6 | 137 56 | 876 36 | 3 01 | 3 83 | ..... | 1,020 76 | 101 55 | 105 64 | 648 91 | 164 66 |
| 7 | 70 62 | 745 63 | 36 76 | 4 44 | ..... | 857 45 | 11 29 | 13 50 | 646 09 | 186 57 |
| Total..... | \$3,348 73 | \$25,974 38 | \$ 150 45 | \$ 154 52 | \$ 2 54 | \$ 29,630 62 | \$ 262 29 | \$ 424 03 | \$ 22,411 31 | \$6,532 99 |

SPECIAL PERMITS.

| | | | | | | | | | | |
|------------|-------|-----------|-------|-------|-------|-----------|-------|-------|-----------|-------|
| 1 | \$ | \$ 13 00 | ..... | ..... | ..... | \$ 13 00 | ..... | ..... | \$ 13 00 | ..... |
| 2 | ..... | 13 29 | ..... | ..... | ..... | 13 29 | ..... | ..... | 13 29 | ..... |
| 3 | ..... | 26 57 | ..... | ..... | ..... | 26 57 | ..... | ..... | 26 57 | ..... |
| 4 | ..... | 21 45 | ..... | ..... | ..... | 21 45 | ..... | ..... | 21 45 | ..... |
| 5 | ..... | 28 22 | ..... | ..... | ..... | 28 22 | ..... | ..... | 28 22 | ..... |
| 6 | ..... | 7 73 | ..... | ..... | ..... | 7 73 | ..... | ..... | 7 73 | ..... |
| 7 | ..... | 10 42 | ..... | ..... | ..... | 10 42 | ..... | ..... | 10 42 | ..... |
| Total..... | \$ | \$ 120 68 | ..... | ..... | ..... | \$ 120 68 | ..... | ..... | \$ 120 68 | ..... |

1900.

Statement of Account with the City of Erie, Penna.

CITY OF ERIE, PENNA.—Dr.

CASH—Paid Board of Commissioners of the Sinking Fund of the City of Erie.....

INTEREST—On balances in Second National Bank, from October 1, 1899, to April 1, 1900.....

Interest on same to December 31, 1900.....

From April 1, 1900, to October 1, 1900.....

Interest on same to December 31, 1900.....

On payments to Board of Commissioners of the Sinking Fund of the City of Erie.....

July 21, 1900, to December 31, 1900, on.....

November 10, 1900, to December 31, 1900, on.....

December 29, 1900, to December 31, 1900, on.....

WATER—City Hall.....

Engine Houses.....

Fire Hydrants.....

Flushing Sewers.....

Settling filling in Sewer Trench.....

Fountains—Drinking.....

Fountains—Park.....

Parks—Central—East.....

Parks—Central—West.....

Parks—Lakeside—East.....

Parks—Lakeside—West.....

Sprinkling State St., bet. Front and Dock.....

Sprinkling Streets by Superintendent of Streets.....

Balance.....

CREDITS.

BALANCE—December 31, 1899.....

INTEREST—On same to December 31, 1900.....

RENT—Of Offices one year.....

Balance due the City of Erie, Penna., December 31, 1900.....

\$ 23,000 00

\$ 80 22
2 42 \$ 82 64

55 21
56

55 77

138 41

\$ 10,000 00

178 63

5,000 00

27 95

8,000 00

1 75

208 33 \$ 346 74

291 86

232 13

32,725 00

212 00

92 00

159 41

1 251 05

1,410 46

50 00

50 00

100 00

17 90

89 90

140 80

6 98

147 78

35,209 13

58,555 87

583,915 94

642,471 81

616,607 51

24,664 30

1,200 00

642,471 81

\$ 583,915 94

1900. Statement of Resources and Liabilities December 31, 1900. 1900

RESOURCES:—PLANT NORTH OF FRONT STREET—

Buildings and Grounds including Piers to Intake No. 1.....
Boiler House from January 1, 1896.....
Engine House No. 3 from January 1, 1892.....
Boilers from January 1, 1896.....
Engines and Boilers to December 31, 1891.....
Engine No. 4, from January 1, 1892.....
Engine No. 5, from January 1, 1898.....
Coal Elevator and Conveyor from January 1, 1900.....
Electric Light Plant.....
Engine Room, Furniture and Fixtures.....
Meter Prover from January 1, 1900.....
Intake Pipes—No. 1.....
—No. 2, from January 1, 1892.....
Railroad Switch and Scales.....
Steel Plate Chimney No. 1, from January 1, 1896.....
Water Lots from January 1, 1895.....

PLANT SOUTH OF FRONT STREET—

Connections.....
Drinking Fountains from January 1, 1894.....
Fire Hydrants.....
High Service System from January 1, 1898.....
Mains and Branches.....
Main 30-inch.....
Meters.....
Stop Valves.....
Office Furniture and Fixtures.....
Reservoir.....

PERSONAL—Accounts—Assessed.....

Accounts—Meter.....
Accounts—Plumbing.....

CASH - In Hands of Treasurer, City of Erie.....

LIABILITIES:—ACCOUNTS—City of Erie, Penn'a.....

Credits on Assessed.....
Credits on Meter.....
Balance.....

| | |
|---------------|-----------------|
| \$ 114,432 24 | |
| 16,078 14 | |
| 21,591 35 | \$ 152,101 73 |
| 18,881 54 | |
| 107,309 35 | |
| 49,147 09 | |
| 34,031 72 | \$ 209,369 70 |
| | 479 67 |
| | 5,711 28 |
| | 1,833 93 |
| | 453 20 |
| 55,568 44 | |
| 143,826 35 | \$ 199,394 79 |
| | 3,262 09 |
| | 4,245 44 |
| | 16,151 00 |
| | \$ 593,002 83 |
| \$135,936 82 | |
| 1,763 90 | |
| 31,543 95 | |
| 49,474 26 | |
| \$ 653,558 55 | |
| 83,289 35 | \$ 736,847 90 |
| | 24,299 13 |
| 42,820 16 | \$ 1,022,686 12 |
| | 2,491 98 |
| | 137,629 35 |
| | 1,162,807 45 |
| | \$ 1,755,810 28 |
| \$ 364 57 | |
| \$ 6,532 99 | \$ 6,897 56 |
| | 73 64 |
| | \$ 6,971 20 |
| | 380 14 |
| | 7,351 34 |
| | \$ 1,763,161 62 |
| \$ 254 73 | \$ 583,915 94 |
| 2 54 | |
| 257 27 | \$ 584,173 21 |
| | \$ 1,178,988 41 |
| | \$ 1,763,161 62 |

ASSESSMENT FOR 1901.

| ITEMS ASSESSED. | WARDS. | | | | | | | | | | TOTALS. | | | |
|-----------------------------|--------|---------|---------|----------|--------|---------|---------|---------|--------|---------|---------|---------|----------|---------|
| | FIRST. | | SECOND. | | THIRD. | | FOURTH. | | FIFTH. | | SIXTH. | | SEVENTH. | |
| | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. |
| ir Pumps..... | 8 | 24 00 | 22 | 66 00 | 22 | 68 00 | 9 | 27 00 | 8 | 24 00 | 6 | 18 00 | 75 | 227 00 |
| quariums..... | 1 | 5 00 | 1 | 3 00 | 1 | 10 00 | 3 | 15 00 | 3 | 15 00 | 6 | 34 36 | 2 | 13 00 |
| akeries..... | 2 | 15 00 | 6 | 31 24 | 5 | 29 56 | 3 | 15 00 | 3 | 15 00 | 6 | 34 36 | 24 | 130 16 |
| anks..... | 2 | 15 00 | 35 | 110 00 | 1 | 10 00 | 2 | 10 00 | 20 | 60 00 | 20 | 57 00 | 5 | 35 00 |
| arber Chairs..... | 23 | 64 00 | 35 | 110 00 | 46 | 130 00 | 26 | 74 00 | 162 | 490 00 | 207 | 605 50 | 170 | 495 00 |
| ath Tubs..... | 367 | 1087 00 | 385 | 1164 50 | 796 | 2361 50 | 642 | 1829 50 | 526 | 1500 00 | 526 | 1500 00 | 2567 | 7568 00 |
| icycle Schools..... | 6 | 6 00 | 14 | 14 00 | 21 | 21 00 | 6 | 6 00 | 9 | 9 00 | 3 | 3 00 | 59 | 59 00 |
| illiard Tables..... | 3 | 12 50 | 8 | 30 00 | 12 | 45 00 | 6 | 25 00 | 4 | 20 00 | 1 | 5 00 | 34 | 137 50 |
| acksmith Fires..... | 2 | 15 00 | 6 | 41 07 | 7 | 30 31 | 1 | 10 00 | 11 | 42 07 | 15 | 47 77 | 3 | 25 00 |
| oat Houses..... | 4 | 17 64 | 6 | 16 00 | 1 | 5 00 | 9 | 16 87 | 11 | 42 07 | 15 | 47 77 | 58 | 418 52 |
| onds..... | 1 | 5 00 | 2 | 10 00 | 1 | 5 00 | 1 | 5 00 | 3 | 15 00 | 1 | 5 00 | 3 | 21 00 |
| otting Works..... | 1 | 5 00 | 2 | 10 00 | 1 | 5 00 | 1 | 5 00 | 3 | 15 00 | 8 | 14 72 | 9 | 45 00 |
| owling Alleys..... | 3 | 3 68 | 8 | 13 37 | 15 | 29 74 | 8 | 16 70 | 4 | 6 69 | 8 | 14 72 | 46 | 84 90 |
| urches and Sunday Schools. | 2 | 67 90 | 8 | 43 00 | 12 | 44 00 | 11 | 41 00 | 2 | 8 00 | 4 | 16 00 | 5 | 259 90 |
| ity Parks..... | 4 | 17 00 | 10 | 6 50 | 12 | 9 00 | 9 | 6 75 | 25 | 18 25 | 10 | 7 50 | 41 | 169 00 |
| lub Rooms..... | 12 | 9 00 | 10 | 46 00 | 17 | 85 00 | 6 | 30 00 | 3 | 8 33 | 1 | 1 00 | 81 | 59 82 |
| ows..... | 4 | 19 67 | 10 | 46 00 | 17 | 85 00 | 6 | 30 00 | 3 | 8 33 | 1 | 1 00 | 41 | 190 00 |
| ating Houses..... | 1 | 120 00 | 3 | 10 00 | 1 | 60 00 | 1 | 5 00 | 2 | 10 00 | 2 | 10 00 | 5 | 190 00 |
| levators..... | 1 | 5 00 | 1 | 5 00 | 1 | 10 00 | 1 | 5 00 | 2 | 10 00 | 2 | 10 00 | 8 | 45 00 |
| ngine Houses..... | 5 | 5 00 | 46 | 49 67 | 50 | 46 50 | 12 | 15 00 | 11 | 11 00 | 17 | 17 00 | 141 | 144 17 |
| ngine, Gas Horse Power..... | 88 | 127 38 | 135 | 222 85 | 34 | 53 25 | 63 | 39 37 | 36 | 45 70 | 27 | 60 00 | 30 | 602 30 |
| ngine, Steam Horse Power.. | 93 | 132 38 | 181 | 272 52 | 84 | 99 75 | 75 | 54 37 | 47 | 56 70 | 44 | 77 00 | 30 | 53 75 |
| otal Engine Horse Power.... | 1535 | 6160 00 | 2618 | 10447 99 | 2006 | 8000 03 | 1685 | 6729 34 | 1316 | 5256 01 | 1492 | 5944 01 | 71 | 355 00 |
| umiles..... | 1 | 10 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 |
| sh Hatchery..... | 1 | 10 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 |
| sh Markets..... | 1 | 10 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 |
| sh Ponds..... | 1 | 10 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 | 1 | 5 00 |
| ountains..... | 1 | 625 52 | 2 | 8 00 | 2 | 8 00 | 12 | 640 53 | 1 | 5 00 | 1 | 5 00 | 15 | 1274 05 |

WATER WORKS IN THE CITY OF ERIE.

51

| | | | | | | | | | | | | | | | | |
|-----------------------------|-----|---------|------|---------|------|---------|------|---------|------|---------|------|---------|----|--------|------|----------|
| ountains, Drinking.. | 2 | 30 00 | 2 | 30 00 | 1 | 15 00 | 2 | 30 00 | 2 | 30 00 | 1 | 15 00 | 1 | 18 75 | 11 | 168 75 |
| ountain, Cuspidors.. | | | 3 | 9 00 | 7 | 21 00 | 1 | 3 00 | | | | | | | 11 | 33 00 |
| eight Houses..... | | | 1 | 15 00 | | | | | | | | | | | 1 | 15 00 |
| lass Washers..... | | | | | 1 | 18 00 | 1 | 6 00 | | | | | | | 2 | 24 00 |
| reen Houses..... | | | | | | | 4 | 10 35 | 12 | 15 76 | 3 | 1 38 | 4 | 9 25 | 23 | 36 74 |
| and Basins..... | 394 | 329 53 | 497 | 439 16 | 1018 | 877 02 | 799 | 663 53 | 104 | 96 17 | 191 | 168 69 | 6 | 7 50 | 3009 | 2581 60 |
| ating Boilers, Horse Power. | 208 | 56 32 | 370 | 65 26 | 529 | 108 85 | 523 | 130 75 | 197 | 39 60 | 149 | 18 60 | 19 | 16 87 | 2085 | 436 25 |
| orses..... | 145 | 204 00 | 280 | 362 67 | 392 | 542 00 | 290 | 361 00 | 242 | 346 00 | 225 | 306 00 | 8 | 17 50 | 1582 | 2119 17 |
| audrines..... | 1 | 5 00 | 3 | 15 00 | 3 | 15 00 | | 10 00 | | | 1 | 5 00 | | | 10 | 50 00 |
| ibraries..... | 1 | 10 00 | | | | | | | | | | | | | 1 | 10 00 |
| odging Rooms..... | 160 | 160 00 | 265 | 254 50 | 270 | 269 34 | 193 | 193 00 | 30 | 26 67 | 83 | 48 49 | 11 | 13 75 | 1012 | 965 75 |
| lent Markets..... | 10 | 36 00 | 18 | 104 00 | 15 | 83 00 | 14 | 60 00 | 9 | 51 00 | 9 | 48 00 | | | 75 | 382 00 |
| ilk Depots..... | 1 | 5 00 | | | | | | 10 00 | | | | | | | 3 | 15 00 |
| offices..... | 82 | 231 87 | 84 | 389 50 | 82 | 271 00 | 64 | 258 00 | 4 | 12 00 | 4 | 14 00 | | | 320 | 1176 37 |
| pera Houses..... | | | | | | | 1 | 10 00 | | | | | | | 1 | 10 00 |
| otograph Rooms..... | | | | | | | 1 | 5 00 | 1 | 5 00 | | | | | 12 | 60 00 |
| rinting Offices..... | 3 | 35 00 | 2 | 10 00 | 5 | 40 00 | 2 | 10 00 | | | | | | | 12 | 95 00 |
| ublic Halls..... | 7 | 35 00 | 10 | 50 00 | 12 | 65 00 | 7 | 35 00 | 4 | 20 00 | 4 | 16 67 | 1 | 6 25 | 45 | 227 92 |
| aloons..... | 12 | 60 00 | 39 | 195 00 | 25 | 125 00 | 19 | 95 00 | 11 | 55 07 | 9 | 45 00 | 1 | 6 25 | 116 | 581 25 |
| chool Scholars..... | 908 | 79 80 | 1752 | 108 52 | 2090 | 185 61 | 824 | 80 20 | 1234 | 108 78 | 1049 | 77 97 | | | 7857 | 540 88 |
| laughter Houses..... | | | 1 | 8 00 | | | | | 4 | 20 00 | 2 | 16 00 | | | 7 | 44 00 |
| teamer U. S. Michigan. | | | | | | | | | | | | | | | 1 | 10 00 |
| tores..... | 54 | 228 00 | 155 | 573 00 | 185 | 809 00 | 80 | 313 00 | 41 | 136 00 | 43 | 149 00 | | | 458 | 2208 00 |
| Adjoining Lot..... | 28 | 82 94 | 19 | 59 73 | 41 | 127 35 | 34 | 108 00 | 18 | 52 60 | 3 | 15 27 | 2 | 7 50 | 145 | 453 39 |
| Curb..... | 75 | 298 89 | 55 | 176 18 | 112 | 361 73 | 169 | 607 89 | 18 | 56 20 | 33 | 116 45 | 4 | 14 43 | 466 | 1031 77 |
| Hydrant..... | 35 | 138 35 | 55 | 156 21 | 54 | 204 52 | 77 | 288 97 | 30 | 108 50 | 52 | 196 14 | 3 | 18 57 | 306 | 1111 26 |
| In House..... | 67 | 221 95 | 125 | 412 22 | 57 | 186 30 | 59 | 191 70 | 74 | 244 52 | 78 | 256 40 | 3 | 13 69 | 463 | 1526 78 |
| Lawn..... | 48 | 149 29 | 74 | 220 65 | 120 | 360 23 | 98 | 325 43 | 68 | 195 81 | 87 | 224 87 | 31 | 71 74 | 526 | 1548 02 |
| St. Cock..... | 446 | 1237 97 | 516 | 1461 93 | 851 | 2234 49 | 643 | 1718 73 | 460 | 1276 77 | 543 | 1448 12 | 18 | 68 13 | 3477 | 9446 14 |
| ut Sprinklers..... | 690 | 3120 39 | 844 | 2486 92 | 1235 | 3474 62 | 1080 | 3240 72 | 668 | 1934 40 | 796 | 2257 25 | 61 | 194 06 | 5383 | 15717 36 |
| rnas..... | 41 | 145 91 | 72 | 241 17 | 83 | 273 16 | 56 | 200 34 | 16 | 66 67 | 25 | 65 83 | | | 293 | 993 08 |
| ash Fabs..... | 100 | 137 67 | 47 | 66 33 | 273 | 379 66 | 287 | 398 00 | 12 | 18 00 | 46 | 53 00 | | | 765 | 1052 66 |
| ash Fabs, Revolving..... | 2 | 10 00 | 1 | 5 00 | 2 | 10 00 | 3 | 15 00 | | | | | | | 9 | 45 00 |
| ash Wash, Fabs..... | 102 | 147 67 | 45 | 71 33 | 275 | 389 66 | 290 | 413 00 | 12 | 18 00 | 47 | 58 00 | | | 774 | 1097 66 |

ASSESSMENT FOR 1901.—Continued.

| ITEMS ASSESSED. | WARDS. | | | | | | | | | | | | | | | | 'TOTALS. | |
|------------------------------|--------|----------|---------|----------|--------|----------|---------|----------|--------|----------|--------|----------|----------|---------|-------|-----------|----------|---------|
| | FIRST. | | SECOND. | | THIRD. | | FOURTH. | | FIFTH. | | SIXTH. | | SEVENTH. | | | | | |
| | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. | No. | Amount. |
| ater Closets, Closing..... | 821 | 2402 84 | 1201 | 3663 00 | 1879 | 5443 16 | 1273 | 3514 00 | 360 | 1044 00 | 496 | 1451 50 | 12 | 45 00 | 6042 | 17563 50 | | |
| ater Closets, Non-Closing... | 23 | 78 00 | 31 | 72 00 | 23 | 78 34 | 12 | 67 50 | 1 | 6 00 | 1 | 6 00 | | | 91 | 307 84 | | |
| ital Water Closets..... | 844 | 2480 84 | 1232 | 3735 00 | 1902 | 5521 50 | 1285 | 3581 50 | 361 | 1050 00 | 497 | 1457 50 | 12 | 45 00 | 6133 | 17871 34 | | |
| ater Motors..... | | | 1 | 1 67 | 3 | 11 34 | 4 | 30 02 | | | 2 | 3 34 | | | 10 | 46 37 | | |
| ater Troughs..... | | | 5 | 50 00 | 3 | 30 00 | 2 | 15 00 | 8 | 80 00 | 2 | 20 00 | | | 20 | 195 00 | | |
| ork Shops..... | 21 | 82 00 | 43 | 164 50 | 55 | 181 00 | 25 | 75 00 | 5 | 17 00 | 5 | 19 00 | 1 | 3 75 | 155 | 542 25 | | |
| acht..... | | | | | | | 1 | 3 00 | | | | | | | 1 | 3 00 | | |
| Grand Totals for 1901 .. | 5860 | 14917 62 | 9051 | 21729 39 | 11259 | 24411 99 | 8091 | 20041 47 | 4584 | 10147 10 | 4968 | 11661 58 | 243 | 1003 29 | 44056 | 103912 44 | | |
| Grand Totals for 1900..... | 5328 | 13728 08 | 8530 | 20462 19 | 11084 | 23824 50 | 7958 | 19866 05 | 4178 | 9257 56 | 4652 | 10934 78 | 160 | 904 83 | 41890 | 98977 99 | | |
| Total Gain for 1901..... | 532 | 1189 54 | 521 | 1267 20 | 175 | 587 49 | 133 | 175 42 | 406 | 889 54 | 316 | 726 80 | 83 | 98 46 | 2166 | 4934 45 | | |

RATES FOR CITY WATER.

Approved by Select Council, August 19, 1895. Approved by Common Council, September 16, 1895. Approved by the Mayor, September 21, 1895.

And as Amended and Approved November 25, 1899.

ARE ALL ANNUAL EXCEPT AS OTHERWISE INDICATED, AND PAYABLE QUARTERLY IN ADVANCE, AS FOLLOWS:

First Quarter—January, February, March—January 1st.

Second Quarter—April, May, June—April 1st.

Third Quarter—July, August, September—July 1st.

Fourth Quarter—October, November, December—October 1st.

If the rents for any quarter are not paid within the *first Month thereof*, *five per cent.* may be added. If payment is not made by the 15th day of February, May, August and November of each quarter, the water may be turned off from the premises, and shall not be turned on again without the consent of the Commissioners of Water Works, until all back rents and penalties are paid, and the further sum of one (1) dollar.

| | | |
|---|---------------|------|
| Air Pump..... | \$ | 3 00 |
| Bath Tub—Private (one family) first tub..... | | 3 00 |
| Bath Tub—Private (one family) each additional tub..... | | 1 50 |
| Bath Tub—Public, each tub | | 5 00 |
| Bakery, per barrel of flour used (but no charge less than \$5) | | 01 |
| Barber Shop, first chair, including hand basin..... | | 4 00 |
| Barber Shop, each additional chair, including hand basin..... | | 2 00 |
| Billiard Tables, each..... | | 1 00 |
| <i>Billiard Tables when floor is carpeted, one-half the above rate</i> | | |
| Blacksmith Fire, first fire..... | | 5 00 |
| Blacksmith Fire, each additional fire..... | | 2 50 |
| Boarding House, (in addition to family rates) per room..... | | 1 00 |
| Building Purposes, per bushel of lime; to be paid for before work is begun | | 02 |
| Butcher Stalls | 3 00 to 15 0 | |
| Charitable Institutions, one-third annual rates. | | |
| Cow..... | | 75 |
| Condensing Boiler for Steam Heating, (per season of 6 months) per horse power..... | | 25 |
| Eating Houses..... | 5 00 to 25 00 | |
| Family..... | 4 00 | |
| Fire Protection Fixtures, testing same, thirty (30) minutes or less | | 3 00 |
| Fire Protection Fixtures, testing same, one (1) hour or less, but more than thirty (30) minutes..... | | 5 00 |
| Flushing Sewers, settling earth in ditches or purposes of like nature, per hour, or fractional part of an hour, each..... | | 5 00 |
| Gas Engines five horse power or less..... | | 5 00 |
| Gas Engines, for each additional horse power..... | | 1 00 |
| <i>Gas Engines, when water is used over and over again, from tank prepared for the purpose, one-half the above rates.</i> | | |
| Hand Basins in dwellings, hotels and schools, first basin | | 1 00 |

| | | |
|---|----------|-------|
| Hand Basins in dwellings, hotels and schools, each additional basin..... | \$ | 50 |
| Hand Basins in offices, stores and blocks, each..... | | 1 00 |
| Hotels, (in addition to family rates) per room..... | | 1 00 |
| Laundry, shop..... | | 5 00 |
| Laundry, wash tub, stationary, each..... | | 2 00 |
| Laundry, revolving washer, each..... | | 5 00 |
| Livery Stable, per horse..... | | 2 00 |
| Offices..... | 3 00 to | 10 00 |
| Private Stable, one or two horses..... | | 2 00 |
| Private Stable, each additional horse over two..... | | 1 00 |
| Printing Offices..... | 5 00 to | 30 00 |
| Public Halls..... | 5 00 to | 25 00 |
| Saloons..... | 5 00 to | 25 00 |
| School, per pupil (in addition to fixtures)..... | | 10 |
| Slaughter Houses..... | 5 00 to | 50 00 |
| Sleeping Rooms, each..... | | 1 00 |
| Sprinkling Streets or Lawns with Hose, Per Season: | | |
| Corner lot, 41 feet front or less..... | | 5 00 |
| Inside lot, 41 feet front or less..... | | 3 00 |
| For each additional foot front to either corner, or inside lot..... | | 05 |
| Steam Engines, 10 hours per day, each Horse Power..... | | 2 50 |
| Stores..... | 3 00 to | 15 00 |
| Urinal, private, self-closing, (one family)..... | | 2 00 |
| Urinal, private, not self-closing, (one family)..... | | 6 00 |
| Urinal, public, self-closing..... | | 3 00 |
| Urinal, public not self-closing..... | | 10 00 |
| Urinal, private or public, continuous flow..... | 10 00 to | 30 00 |
| Wash Tub, Stationary, first tub (one family)..... | | 2 00 |
| Wash Tub, Stationary, each additional tub, (one family)..... | | 1 00 |
| Water Closet, pan or tank, (one family) private..... | | 3 00 |
| Water Closet, pan or tank, (one family) each additional water closet..... | | 1 50 |
| Water Closet, pan or tank, public, each..... | | 5 00 |
| Water Closet, hopper, (one family) private, for each water closet..... | | 6 00 |
| Water Closet, hopper, public, for each water closet..... | | 10 00 |
| Work Shop, ordinary use..... | 3 00 to | 5 00 |

Sprinkling for any purpose will ONLY be allowed on premises where water is taken and paid for, for domestic or other inside use. The sprinkling season is from May 1st to November 1st, in each year.

There is no fractional part of a sprinkling season.

It will cost as much to sprinkle but once at any time during the sprinkling season as it will to sprinkle each day, at the prescribed hours, during the entire season.

Sprinkling must be confined to the hours between 5 and 8 A. M., 12 and 1 P. M. and 5 and 8 P. M., nor during said intervals more than one hour at a time. Persons who exceed one hour may be charged at fountain rates or held liable for violation of the rules, at the option of the Commissioners.

The inside diameter of hose used for sprinkling purposes must not be more than three-quarters of an inch, and the inside diameter of the orifice to the nozzle of the same must not be more than one-quarter of an inch. The use of leaky or defective hose is prohibited.

No person will be allowed to sprinkle adjoining or opposite premises, nor to use the water from any hose attachment, or through any hose

for any purpose not authorized by the Commissioners. All sprinkling devices not held in the hand when used shall be classed as fountains, or fountain jets, and assessed accordingly, *but not less than double sprinkling rates.*

Fountains, fountain jets, etc., will be assessed according to the inside diameter of its principal part or parts, and for a continuous flow during the entire sprinkling season.

Hose must not be used for cleaning streets or street gutters, for washing away collections of leaves, heaps of dirt or offal, or flooding streets.

Sprinkling fixtures, to which hose can be attached, no matter where located on any premises, makes said premises assessable for sprinkling.

All plumbing from the curb line inward must be done by a licensed plumber.

Water fixtures will be assessed for each and every purpose available, and for each family or establishment within the enclosure or separated only by a door, gateway or other means of easy communication.

No abatement of charges shall be allowed for vacancy of premises *except from the date that notice has been given at the office of the Commissioners of Water Works that they are unoccupied.*

The Commissioners may limit or stop the supply of water in cases of emergency, and shut it off for repairs or extensions, they being the judges of the time and necessity. Neither the Commissioners nor the City of Erie shall be liable in damages for any insufficient supply of City water.

For each and every violation of the rules and regulations of the Water Works, the offending party will be subject to a fine of not less than Five nor more than Fifty Dollars.

METER RATES.

Twenty (20) cents for each one thousand (1,000) gallons for the first Twenty-five Thousand (25,000) gallons, and Four (4) cents for each one Thousand (1,000) gallons consumed thereafter during each current quarter.

PROVIDED, the minimum receipts from each meter shall be as follows:

| | | | |
|---------------------------------|----------|-------------|---------|
| $\frac{3}{4}$ inch or less..... | \$ 3 75 | 1 inch..... | \$ 4 50 |
| $1\frac{1}{8}$ inch..... | 6 25 | 2 inch..... | 10 00 |
| 3 inch..... | 18 75 | 4 inch..... | 38 75 |
| 6 inch..... | \$100 00 | | |

TERMS: All water sold by Meter Measurement must be paid for on or before THE TENTH DAY OF THE FIRST MONTH OF EACH QUARTER. All Meter Accounts remaining unpaid at the close of business on the 10th day of said month, shall have Five Per Centum added thereto. On the 15th day of said month, WATER MAY BE TURNED OFF from the property whose meter account is unpaid, and will not be again turned on until all arrearages and penalties are paid, and the further sum of One (\$1.00) Dollar.

1900.

STATEMENT OF WORK DONE BY INSPECTOR NO. 1.

1900.

| MONTHS. | TURNED OFF ACCOUNT. | | | TURNED ON ACCOUNT. | | NEW HOUSES. | | FIXTURES. | | | | | | Totals. |
|----------------|---------------------|------------|------------------|--------------------|-----------|--------------------|------------|-------------|---------|------------|----------|------------------|------------|---------|
| | Unpaid. | Vacancies. | Leaks and Waste. | Paid. | Occupied. | Building Purposes. | Completed. | Complaints. | Frozen. | Installed. | Removed. | Leaks and Waste. | Vacancies. | |
| | | | | | | | | | | | | | | |
| January..... | ..... | 5 | ..... | ..... | 21 | 7 | 12 | 6 | 10 | 77 | 31 | 8 | 5 | 182 |
| February..... | 4 | ..... | 1 | 1 | 15 | ..... | 7 | 4 | 12 | 122 | 24 | 7 | 418 | 615 |
| March..... | ..... | ..... | 1 | ..... | 28 | 2 | 24 | 6 | 36 | 131 | 19 | 4 | ..... | 251 |
| April..... | ..... | 2 | 1 | ..... | 38 | 8 | 43 | 7 | ..... | 181 | 55 | 3 | 5 | 343 |
| May..... | ..... | 6 | 2 | ..... | 47 | 7 | 46 | 3 | ..... | 287 | 33 | 3 | ..... | 434 |
| June..... | ..... | ..... | 1 | ..... | 21 | 9 | 59 | 2 | ..... | 316 | 25 | 2 | 471 | 906 |
| July..... | ..... | 2 | 1 | ..... | 28 | 7 | 19 | 2 | ..... | 151 | 23 | 3 | ..... | 236 |
| August..... | 2 | 6 | 3 | 1 | 16 | 5 | 16 | 4 | ..... | 109 | 16 | 2 | ..... | 180 |
| September..... | 5 | 13 | 1 | ..... | 28 | 8 | 24 | 3 | ..... | 134 | 15 | 4 | 135 | 370 |
| October..... | ..... | 17 | ..... | ..... | 37 | 8 | 30 | 5 | ..... | 125 | 28 | ..... | ..... | 250 |
| November..... | 3 | 13 | ..... | 5 | 25 | 9 | 37 | 4 | ..... | 121 | 29 | ..... | ..... | 246 |
| December..... | ..... | 1 | ..... | ..... | 16 | 5 | 23 | 2 | ..... | 182 | 24 | 3 | 346 | 602 |
| Total..... | 14 | 65 | 11 | 7 | 320 | 75 | 340 | 48 | 58 | 1936 | 322 | 39 | 1380 | 4615 |

1900. STATEMENT OF WORK DONE BY INSPECTOR NO. 2. 1900.

| MONTH. | TURNED OFF ACCOUNT. | | | TURNED ON ACCOUNT. | | NEW HOUSES. | | FIXTURES. | | | | | | Totals. |
|----------------|---------------------|------------|------------------|--------------------|-----------|--------------------|------------|-------------|---------|------------|----------|------------------|------------|---------|
| | Unpaid. | Vacancies. | Leaks and Waste. | Paid. | Occupied. | Building Purposes. | Completed. | Com-plains. | Frozen. | Installed. | Removed. | Leaks and Waste. | Vacancies. | |
| January..... | | | | | | | | | | 1 | | | | 1 |
| February..... | | | | | | | | 2 | | | | | | 2 |
| March..... | | | | | | | | 1 | | | | | | 1 |
| April..... | | | | | | | | | | | | | | 14 |
| May..... | | | | 14 | | | | | | | | | | 7 |
| June..... | 2 | | | 1 | | | | 4 | | | | | | 2 |
| July..... | | | | | | | | 2 | | | | | | 7 |
| August..... | 5 | 5 | | 19 | 6 | 3 | 11 | 7 | | 131 | 2 | 1 | 2 | 192 |
| September..... | | | | | 1 | | 1 | 5 | | 7 | | | | 14 |
| October..... | | 1 | | | 1 | 2 | | 4 | | 1 | 1 | | | 10 |
| November..... | | 1 | | | 1 | | | | | | | | | 2 |
| December..... | | | | | | 1 | | 1 | | 1 | | 1 | | 4 |
| Totals..... | 7 | 7 | | 34 | 9 | 6 | 12 | 26 | | 141 | 3 | 2 | 2 | 249 |

WATER WORKS, IN THE CITY OF ERIE.

| 1900. | MONTHS. | TURNED OFF ACCOUNT. | | | TURNED ON ACCOUNT. | | NEW HOUSES. | | FIXTURES. | | | | | Totals. | |
|-------|----------------|---------------------|------------|------------------|--------------------|-----------|--------------------|-----------|------------|---------|------------|----------|------------------|---------|------------|
| | | Unpaid. | Vacancies. | Leaks and Waste. | Paid. | Occupied. | Building Purposes. | Completed | Complaints | Frozen. | Installed. | Removed. | Leaks and Waste. | | Vacancies. |
| | January..... | | | | | | | | | | 1 | | | | 1 |
| | February..... | | | | | | 1 | | | | 3 | | | | 4 |
| | March..... | | | | | | | | | | 5 | 1 | 1 | 2 | 9 |
| | April..... | | | | | | | | | | | | | | 1 |
| | May..... | | | | | | | | | | 17 | | | 1 | 18 |
| | June..... | 1 | 1 | | | | 1 | 1 | | | 1 | | | | 4 |
| | July..... | | | | | | | | | | 4 | | | 1 | 6 |
| | August..... | | | | | | | | | | 27 | | | | 27 |
| | September..... | | | | | | | | | | | | | | |
| | October..... | | | | | | 2 | | | | 3 | | | | 14 |
| | November..... | 3 | | | 4 | | | | | | 25 | 1 | 2 | | 35 |
| | December..... | | | | | | | | | | | | | | |
| | Total..... | 4 | 1 | | 4 | | 4 | 1 | | | 86 | 2 | 4 | 13 | 119 |

STATEMENT OF WORK DONE BY INSPECTOR NO. 3.

1900.

1900.

1900. Statement of Work Done at Annual Inspection by Inspector No. 2. 1900.

| WARD. | ENGINES. | | FIXTURES. | | | Hand Basins. | | Heating Boilers. | | Premises. | | SPRINKLERS. | | | | TUBS. | | Urinals. | | Non Closing or Hopper. | | WATER CLOSETS. | | TOTAL |
|--------|------------|------|-----------|-------------|--------------|--------------|-------|------------------|-----|-----------|-----|-------------|----------|-------|------------|-------|-------|----------|--|------------------------|--|----------------|--|-------|
| | Air Pumps. | Gas. | Steam. | Draw Cocks. | Goose Necks. | Hydrants. | | | | | | Curb. | Hydrant. | Lawn. | Sill Cock. | Bath. | Wash. | | | | | | | |
| First | 2 | 1 | 7 | 1,728 | 10 | 109 | 394 | 13,1465 | 75 | 35 | 48 | 446 | 367 | 102 | 41 | 21 | 821 | 5,779 | | | | | | |
| Second | 22 | 6 | 14 | 2,846 | 6 | 318 | 497 | 21,2267 | 55 | 55 | 74 | 516 | 385 | 48 | 72 | 31 | 1,201 | 8,417 | | | | | | |
| Third | 2 | 1 | 3 | 1,402 | 3 | 119 | 104 | 25,1182 | 18 | 30 | 68 | 460 | 162 | 12 | 16 | 1 | 361 | 4,661 | | | | | | |
| Fourth | | | 1 | 48 | | 4 | 9 | 3 | 41 | 1 | 1 | 8 | 5 | | | | | | | | | | | |
| Total | 28 | 11 | 24 | 6,114 | 10 | 650 | 1,001 | 62,4955 | 149 | 121 | 195 | 1,430 | 919 | 162 | 129 | 55 | 2,371 | 18,411 | | | | | | |

1900. Statement of Work Done at Annual Inspection by Inspector No. 3. 1900.

| WARD. | ENGINES. | | FIXTURES. | | | Hand Basins. | | Heating Boilers. | | Premises. | | SPRINKLERS. | | | | TUBS. | | Urinals. | | Non Closing or Hopper. | | WATER CLOSETS. | | TOTAL |
|--------|------------|------|-----------|-------------|--------------|--------------|-------|------------------|-----|-----------|-----|-------------|----------|-------|------------|-------|-------|----------|--|------------------------|--|----------------|--|-------|
| | Air Pumps. | Gas. | Steam. | Draw Cocks. | Goose Necks. | Hydrants. | | | | | | Curb. | Hydrant. | Lawn. | Sill Cock. | Bath. | Wash. | | | | | | | |
| First | 2 | 1 | 7 | 1,728 | 10 | 109 | 394 | 13,1465 | 75 | 35 | 48 | 446 | 367 | 102 | 41 | 21 | 821 | 5,779 | | | | | | |
| Second | 22 | 6 | 14 | 2,846 | 6 | 318 | 497 | 21,2267 | 55 | 55 | 74 | 516 | 385 | 48 | 72 | 31 | 1,201 | 8,417 | | | | | | |
| Third | 2 | 1 | 3 | 1,402 | 3 | 119 | 104 | 25,1182 | 18 | 30 | 68 | 460 | 162 | 12 | 16 | 1 | 361 | 4,661 | | | | | | |
| Fourth | | | 1 | 48 | | 4 | 9 | 3 | 41 | 1 | 1 | 8 | 5 | | | | | | | | | | | |
| Total | 28 | 11 | 24 | 6,114 | 10 | 650 | 1,001 | 62,4955 | 149 | 121 | 195 | 1,430 | 919 | 162 | 129 | 55 | 2,371 | 18,411 | | | | | | |

PUMPING STATISTICS FOR 1900.

| MONTHS. | ENGINES. | | | | | | | | | | |
|--------------------|-------------------|-------------|-------|--------------------|-------|-------------|--------------------|-------------|----------|---------------|--------|
| | No. 3. | | | No. 4. | | | No. 5. | | | | |
| | GASKILL | | | WORTHINGTON | | | WORTHINGTON. | | | | |
| | 5,000,000 GALLONS | | | 12,000,000 GALLONS | | | 8,000,000 GALLONS. | | | | |
| | SERVICE. | | Days | SERVICE. | | Days | HIGH. | | SERVICE. | | TOTAL. |
| | GALLONS. | | | GALLONS. | | | GALLONS. | | GALLONS. | | |
| | Run. | High. | | Run. | Low. | | Run. | Low. | Run. | Low. | |
| January..... | 31 | 81,721,458 | 1 | 9,727,896 | 6 | 19,744,032 | 31 | 191,775,936 | 31 | 191,775,936 | |
| February..... | 22 | 59,616,284 | 28 | 192,602,184 | 5 | 16,465,680 | 27 | 149,639,160 | 6 | 19,744,032 | |
| March..... | 27 | 72,925,034 | 9 | 52,883,808 | 30 | 63,351,288 | 22 | 149,639,160 | 27 | 166,104,840 | |
| April..... | 26 | 73,002,020 | 30 | 152,917,248 | 5 | 10,904,256 | 30 | 63,351,288 | 30 | 63,351,288 | |
| May..... | 26 | 73,002,020 | 31 | 187,793,160 | 30 | 89,601,600 | 30 | 63,351,288 | 30 | 63,351,288 | |
| June..... | 2 | 5,538,624 | 29 | 165,682,248 | 30 | 89,601,600 | 30 | 63,351,288 | 30 | 63,351,288 | |
| July..... | 22 | 54,943,134 | 29 | 158,198,232 | 30 | 89,601,600 | 30 | 63,351,288 | 30 | 63,351,288 | |
| August..... | 11 | 27,422,486 | 21 | 134,040,504 | 30 | 89,601,600 | 30 | 63,351,288 | 30 | 63,351,288 | |
| September..... | 31 | 71,124,690 | 26 | 146,731,432 | 30 | 89,601,600 | 30 | 63,351,288 | 30 | 63,351,288 | |
| October..... | 30 | 73,979,906 | 11 | 69,125,394 | 30 | 89,601,600 | 30 | 63,351,288 | 30 | 63,351,288 | |
| November..... | 30 | 73,979,906 | 22 | 139,562,160 | 30 | 89,601,600 | 30 | 63,351,288 | 30 | 63,351,288 | |
| December..... | 31 | 166,922,040 | 31 | 166,922,040 | 30 | 89,601,600 | 30 | 63,351,288 | 30 | 63,351,288 | |
| Total..... | 202 | 519,973,636 | 269 | 1,576,186,216 | 165 | 418,020,032 | 96 | 600,260,760 | 261 | 1,028,280,792 | |
| Daily Average..... | ..... | 1,424,585 | ..... | 4,318,318 | ..... | 1,172,658 | ..... | 1,644,550 | ..... | 2,817,208 | |

PUMPING STATISTICS FOR 1900.—Continued.

| MONTHS. | ENGINES. | | | | TOTAL. | | DAILY AVERAGE | AVERAGE LIFT IN FEET. | |
|--------------------|--------------|--------------|---------------|--------------|---------------|--------------|------------------|--------------------------|------|
| | TOTALS. | | SERVICE. | | | | | | |
| | HIGH. | | LOW. | | Gallons. | Days Run. | | HIGH. | LOW. |
| | Gallons. | Days Run. | Gallons. | Days Run. | | | | | |
| | January..... | 81,721,458 | 31 | 201,503,832 | 63 | 283,225,290 | 9,136,299 | 235.76 | |
| February..... | 79,360,316 | 28 | 192,602,184 | 56 | 271,962,500 | 9,712,946 | 235.64 | | |
| March..... | 89,390,714 | 31 | 202,522,968 | 63 | 291,913,682 | 9,416,570 | 235.52 | | |
| April..... | 63,351,288 | 30 | 152,917,248 | 60 | 216,268,536 | 7,208,951 | 235.50 | | |
| May..... | 83,906,276 | 31 | 187,793,160 | 62 | 271,699,436 | 8,764,497 | 235.30 | | |
| June..... | 89,601,600 | 30 | 165,682,248 | 60 | 255,283,848 | 8,500,461 | 235.39 | | |
| July..... | 83,245,440 | 29 | 158,198,232 | 60 | 241,443,672 | 7,788,505 | 234.40 | | |
| August..... | 81,008,550 | 32 | 203,707,200 | 62 | 284,715,750 | 9,184,379 | 235.35 | | |
| September..... | 82,569,974 | 31 | 173,487,304 | 63 | 256,957,278 | 8,601,909 | 235.81 | | |
| October..... | 71,124,690 | 31 | 191,303,712 | 62 | 262,428,402 | 8,465,432 | 235.83 | | |
| November..... | 73,979,906 | 29 | 179,806,848 | 59 | 253,786,754 | 8,459,558 | 235.42 | | |
| December..... | 68,733,456 | 31 | 166,922,040 | 62 | 235,555,496 | 7,601,790 | 235.63 | | |
| Total..... | 947,993,668 | 365 | 2,176,446,976 | 732 | 3,124,440,644 | 8,560,111 | 235.46 | | |
| Daily Average..... | 2,597,243 | ..... | 5,962,868 | ..... | 8,560,111 | ..... | ..... |  |  |

PUMPING STATISTICS.

There are five pumping engines.

Nos. 1 and 2 are Cornish Bull Pumps, erected in 1868; alike in their dimensions, which are as follows: Steam cylinders, 60 inches in diameter; Pump Plunger, $20\frac{1}{4}$ inches in diameter, each 10-foot stroke, capacity being 165 gallons per stroke, pumping 2,000,000 gallons daily. These pumps are out of commission, the cost for repairs being greater than they are worth.

No. 3 is a Gaskill Horizontal Compound Pumping Engine, erected in 1886, having two H. P. Cylinders, 21 inches in diameter, two L. P. Cylinders, 42 inches in diameter, two pumps, $19\frac{1}{2}$ inches in diameter, all 36-inch stroke; capacity being 182 gallons per revolution, pumping 5,000,000 gallons daily.

No. 4 is a Worthington Horizontal Compound High Duty Pumping Engine erected in 1893, having two H. P. Cylinders, 33 inches in diameter, two L. P. Cylinders, 66 inches in diameter, two pumps, 29 inches in diameter, all $49\frac{1}{4}$ -inch stroke; capacity being 552 gallons per stroke pumping 12,000,000 gallons per day, at a piston speed of 128 feet per minute, against a head of 260 feet.

No. 5 is a Worthington Horizontal Compound High Duty Pumping Engine, erected in 1899, having two H. P. Steam Cylinders, each 25 inches in diameter two L. P. Cylinders, each 50 inches in diameter, two double acting water plungers, each 23 inches in diameter, all 36-inch stroke; capacity being 264 gallons per stroke, pumping 8,000,000 gallons per day, at a piston speed of 136 feet per minute, against a total load of 142 pounds per square inch (a head of 328 feet).

There are two intakes, one constructed in 1868, of which 52 feet is brick 14 feet in diameter, 590 feet is wood, $4\frac{1}{4}$ feet in diameter, and 333 feet is boiler iron, 4 feet in diameter, making a total length of 975 feet. The top of the outer end of this intake is four feet below the zero level of the bay, and as it approaches the shore ascends until the top is only two feet above the zero level of the bay. *This intake has not been used since the new one was completed, and as the part made of wood has not been submerged for some time it is undoubtedly past use.* The second intake was completed in 1896. It is made of cast iron, 60 inches internal diameter, 8,307.18 feet long, buried in the bottom of the bay; at no place is there less than three feet of earth over its top. The outer end terminates in an octagonal crib, 40 feet being its extreme width, and 8 feet high, the top being 13 feet below the zero level of the bay. So far as we know, this is the longest single piece of submerged 60-inch cast iron pipe in the world.

The stand pipe was erected in 1868. It is 5 feet in diameter and 259.65 feet in height. A spiral staircase surrounds it and all enclosed in brick. So far as we know, this is the tallest standpipe in the world.

The boiler house was erected in 1897 and is 74 feet wide, 102 feet long, and 25 feet from floor line to bottom of cords to roof. On the north side eight horizontal tubular boilers are installed in batteries of two each. The boilers are 72 inches in diameter, 18 feet long, without domes, and contain 80 4-inch lap welded tubes, capable of carrying 150 lbs. pressure to the square inch.

On the south side of the house can be erected an equal number of the same size boilers, but until these are required the room is used for storing coal; the bins now in place hold 800 tons of coal.

On the north side of the boiler house, near the east end, is a self-sustaining steel plate chimney, 175 feet high, 75 inches internal diameter, lined with fire-brick to a height of 80 feet. This chimney was erected in 1897.

The Reservoir was constructed in 1873 and is about two miles distant from the Pumping Station, the bottom of which is 210 feet above the zero level of the water in the bay, and when the water is carried to a depth of 27 feet, holds 32,952,934 gallons of water.

The regular employees at the Pumping Works are one chief engineer, one machinist, two assistant engineers, three greasers, three firemen, one assistant fireman, one watchman and keeper of grounds, and one janitor. The chief engineer stands a watch of five hours, from 7 to 12 every forenoon; the assistants divide the remainder of each day equally between them.

FIRE HYDRANTS PLACED IN 1900.

| STREET. | LOCATION. | SIZE. | STYLE. | REMARKS. |
|---------------------|--|--------|----------------|--------------------------------|
| Front..... | 495 feet East of German..... | 4-inch | Mathew's..... | |
| Second..... | 129 th feet East of Wallace..... | 4-inch | " | In place of Bay State. |
| Third..... | N. W. Corner Chestnut..... | 6-inch | " | In place of 4-inch Mathew's. |
| " | N. E. Corner Holland..... | 6-inch | " | In place of 4-inch Pittsburgh |
| Fourth..... | N. W. Corner Walnut..... | 6-inch | " | |
| " | N. E. Corner Wallace..... | 6-inch | " | In place of 4-inch Mathew's. |
| " | N. E. Corner Cherry..... | 6-inch | " | 4-inch Mathew's taken out. |
| Fifth..... | 393 feet East of Reed..... | 6-inch | Mathew's..... | |
| Lake Road | N. E. Corner Hess Avenue..... | 6-inch | Mathew's..... | |
| Eighth..... | 421 st feet West of Payne Avenue..... | 4-inch | " | |
| " | N. E. Corner Wayne..... | 6-inch | " | |
| " | 240 th feet East of Wayne..... | 6-inch | Mathew's..... | 4-inch Mathew's taken out. |
| McCarter Ave..... | 408 feet East of East Avenue..... | 4-inch | Mathew's..... | |
| Columbus..... | 249 feet East of Pennsylvania Avenue..... | 6-inch | " | |
| Ninth..... | 151 feet East of Raspberry..... | 4-inch | " | |
| Tenth..... | N. W. Corner Chestnut..... | 6-inch | " | |
| Twelfth..... | 354 feet West of Cranberry..... | 6-inch | " | |
| Thirteenth..... | 321 feet West of Holland..... | 6-inch | " | In place of 4-inch Mathew's. |
| Fourteenth..... | N. W. Corner Ash..... | 6-inch | " | |
| Eighteenth..... | N. W. Corner Wayne..... | 6-inch | " | 4-inch Ludlow taken out. |
| " | N. E. Corner Wallace..... | 6-inch | Mathew's..... | 4-inch Mathew's taken out. |
| " | N. E. Corner Cranberry..... | 6-inch | Mathew's..... | 4-inch Mathew's taken out. |
| Nineteenth..... | 399 th feet East of Parade..... | 6-inch | Mathew's..... | |
| " | N. E. Corner Plum..... | 6-inch | " | |
| " | 265 feet East of Cascade..... | 6-inch | Mathew's..... | |
| " | N. W. Corner Myrtle..... | 6-inch | Mathew's..... | In place of 4-inch Mathew's. |
| Brown Ave..... | N. E. Corner Cascade..... | 6-inch | " | |
| " | 193 rd feet West of Cascade..... | 6-inch | Mathew's..... | 4-inch Mathew's taken out. |
| Twenty-first..... | N. E. Corner Holland..... | 6-inch | Mathew's..... | In place of 4-inch Pittsburgh. |
| " | N. E. Corner Chestnut..... | 6-inch | " | In place of 4-inch Mathew's. |
| Twenty-second..... | 526 th feet East of Warfel Avenue..... | 4-inch | Bay State..... | |
| " | 272 nd feet West of Reed..... | 4-inch | " | 4-inch Bay State taken out. |
| Twenty-fourth | 80 feet East of Pennsylvania Avenue..... | 4-inch | Mathew's..... | |
| " | 83 rd feet West of Pennsylvania Avenue..... | 4-inch | Ludlow..... | |

FIRE HYDRANTS PLACED IN 1900—Continued.

| STREET. | LOCATION. | SIZE. | STYLE. | REMARKS. |
|------------------|--|--------|------------|---------------------------------|
| Twenty-fourth. | 147 ⁴ feet West of Liberty..... | | | 4-inch Pittsburg taken out. |
| " " | 43 feet East of Wallace..... | | | 4-inch Bay State taken out. |
| Twenty-sixth. | N. E. Corner Wallace..... | 6-inch | Mathew's. | |
| " " | N. E. Corner Ash..... | 6-inch | " | |
| " " | N. E. Corner Reed..... | 6-inch | " | |
| " " | N. E. Corner Wayne..... | 6-inch | " | |
| " " | 610 ⁴ feet East of Ash..... | | | 4-inch West Jersey taken out. |
| Twenty-seventh. | 299 ² feet East of Pennsylvania Avenue..... | 4-inch | Bay State. | |
| " " | 215 ⁴ feet East of Pennsylvania Avenue..... | | | 4 inch Bay State taken out. |
| Twenty-eighth. | 574 feet East of Ash..... | 6-inch | Mathew's. | |
| " " | 114 feet West of Parade..... | 4-inch | " | |
| Eliot Ave..... | N. E. Corner Peach..... | 6-inch | " | In place of 4-inch Bay State. |
| Hess Ave..... | N. E. Corner Seventh..... | 6-inch | " | |
| East Ave..... | S. E. Corner Twenty-fifth..... | 4-inch | " | In place of 4-inch Pittsburg. |
| " " | 494 ² feet South of Twelfth..... | 6-inch | " | |
| " " | N. E. Corner Centre..... | 6-inch | " | |
| Wayne..... | 98 feet North of Eighth..... | | | 6-inch Mathew's taken out. |
| Reed..... | S. E. Corner Eighteenth..... | 6-inch | Mathew's. | |
| Ash..... | 83 ² feet South of Nineteenth..... | 4-inch | " | |
| Wallace..... | S. E. Corner Eighteenth..... | 6-inch | " | |
| " " | S. E. Corner Twenty-fourth..... | 6-inch | " | |
| " " | S. E. Corner Twenty-sixth..... | | | 6-inch Mathew's taken out. |
| Parade..... | N. E. Corner Fourth..... | 6-inch | Mathew's. | |
| " " | 79 ³ feet North of Fifteenth..... | 6-inch | " | In place of 4-inch West Jersey. |
| Loesel Ave. | N. E. Corner Nineteenth..... | 4-inch | " | |
| Chestnut..... | 251 ² feet South of Twelfth..... | 6-inch | " | In place of 4-inch Mathew's. |
| Maple..... | 190 ⁶ feet North of Twenty-ninth..... | 4-inch | " | In place of 4-inch Bay State. |
| Poplar..... | 98 feet South of Fourth..... | 6-inch | " | |
| Liberty..... | 721 feet South of Twenty-sixth..... | 4-inch | " | |
| " " | 395 ² feet South of Twenty-sixth..... | | | 4-inch Mathew's taken out. |
| " " | S. E. Corner Fifth..... | 6-inch | Mathew's. | |
| " " | 111 ² feet North of Tenth..... | 4-inch | " | |
| Plum..... | N. E. Corner Seventeenth..... | 4-inch | " | |
| " " | N. E. Corner Twenty-fourth..... | 4-inch | Pittsburg. | |
| Raspberry..... | 138 feet South of Fourth..... | 6-inch | Mathew's. | |
| Cranberry..... | S. E. Corner Seventeenth..... | 6-inch | " | |

**SUMMARY OF
FIRE HYDRANTS PLACED AND REMOVED IN 1900.**

| <i>Placed.</i> | | |
|--|---------|---------|
| STYLE— | SIZE. | NUMBER. |
| Mathew's..... | 4-inch. | 14 |
| Mathew's..... | 6-inch. | 38 |
| Bay State..... | 4-inch. | 2 |
| Ludlow..... | 4-inch. | 1 |
| Pittsburg..... | 4-inch. | 1 |
| | | 56 |
| <i>Removed.</i> | | |
| STYLE— | | |
| Mathew's..... | 4-inch. | 13 |
| Mathew's..... | 6-inch. | 2 |
| Bay State..... | 4-inch. | 6 |
| Ludlow..... | 4-inch. | 1 |
| Pittsburg..... | 4-inch. | 4 |
| West Jersey..... | 4-inch. | 2 |
| | | 28 |
| Net increase..... | | 28 |
| Number in use December 31st, 1899..... | | 567 |
| Total in use December 31st, 1900..... | | 595 |

STOP VALVES PLACED IN 1900.

| STREET. | WHERE LOCATED. | SIZE. | STYLE. | REMARKS. |
|------------------|--|---------|--------|----------------------------|
| Front..... | 31 feet South of South line of Engine Room No. 8 | 30-inch | Eddy | At Pumping Station. |
| Second..... | 261.0 feet East of East line of Electric Room..... | 4-inch | " | For main in alley. |
| Third..... | 197.7 feet West of Holland..... | 20-inch | " | 4-inch Eddy taken out. |
| " | 11.2 feet South of North line of Second | 6-inch | Eddy | In place of 4-inch Ludlow. |
| Fourth..... | East line of Holland..... | 4 inch | " | |
| " | East line of State..... | 6-inch | " | |
| " | West line of Cherry..... | 6-inch | " | |
| " | West line of Walnut..... | 6-inch | " | |
| " | East line of Wallace..... | 6-inch | " | |
| " | West line of German..... | 6-inch | " | |
| Fifth..... | West line of Wayne..... | 6-inch | " | |
| " | East line of Wayne..... | 6-inch | " | |
| " | West line of Hess Ave..... | 6-inch | " | |
| Lake Road | 144.7 feet East of Reed..... | 1-inch | Hays | |
| Seventh..... | East line of Wayne..... | 6-inch | Eddy | |
| Eighth..... | West line of Sasafra..... | 4-inch | " | |
| Ninth..... | West line of Myrtle..... | 4-inch | " | |
| " | East line of Raspberry..... | 4-inch | " | |
| Thirteenth..... | East line of German..... | 4-inch | " | |
| Fourteenth..... | West line of Ash..... | 4-inch | " | |
| " | East line of German..... | 4-inch | " | |
| " | East line of Ash..... | 6-inch | " | |
| Fifteenth..... | West line of Wallace..... | 4-inch | " | |
| " | West line of Ash..... | 6-inch | " | |
| Sixteenth..... | East line of Cranberry..... | 6-inch | " | |
| Seventeenth..... | 13 feet East of West line of Chestnut | 4-inch | " | |
| Eighteenth..... | East line of Parade..... | 6-inch | " | |
| " | East line of Wallace..... | 6-inch | " | |
| " | West line of Wallace..... | 6-inch | " | |

STOP VALVES PLACED IN 1900—Continued.

| STREET. | WHERE LOCATED. | SIZE. | STYLE. | REMARKS. |
|--------------------|--|---------|--------------|--------------------------------|
| Eighteenth..... | East line of Ash..... | 6-inch | Eddy | |
| " | West line of Perry..... | 6-inch | " | |
| " | 95 feet East of Wayne..... | 4-inch | " | In place of old 4 inch Ludlow. |
| " | West line of Reed..... | 6-inch | " | |
| " | West line of Ash..... | 6-inch | " | |
| " | East line of Cranberry..... | 6-inch | " | |
| Nineteenth..... | East line of Parade..... | 6-inch | " | |
| " | West line of Liberty..... | 6-inch | " | |
| " | West line of Plum..... | 6-inch | " | |
| " | West line of Peach..... | 6-inch | " | |
| " | East line of Sassafras..... | 6 inch | " | For High Service System. |
| " | West line of Myrtle..... | 6-inch | " | For High Service System. |
| Brown's Ave. | East line of Cascade..... | 6-inch | " | For High Service System. |
| " | East line of Poplar..... | 6-inch | " | |
| " | East line of Raspberry..... | 6-inch | " | |
| Twenty-first..... | East line of Plum..... | 6-inch | " | |
| " | West line of Plum..... | 12-inch | Pratt & Cady | Swing Flanged Check Valve. |
| " | 13 ¹² feet East of Chestnut..... | 12-inch | Eddy | |
| " | 17 ¹² feet East of Chestnut..... | 6-inch | " | |
| Twenty-second..... | East line of Ash..... | 6-inch | " | |
| " | 14 feet West of East line of Chestnut..... | 6-inch | " | |
| Twenty-third..... | 14 feet West of East line of Chestnut..... | 6-inch | " | |
| Cromwell Ave. | East line of Poplar..... | 6-inch | " | |
| Twenty-fourth..... | West Line of Pennsylvania Ave..... | 6-inch | " | |
| " | East line of Chestnut..... | 6-inch | " | |
| " | 14 ¹² feet West of East line of Chestnut..... | 6-inch | " | In place of 4-inch Eddy. |
| " | East line of Wallace..... | 6 inch | " | |
| " | East line of Plum..... | 6 inch | " | |

STOP VALVES PLACED IN 1900—Continued.

| STREET. | WHERE LOCATED. | SIZE. | STYLE. | REMARKS. |
|------------------|--|---------------------|--------|----------------------------|
| Twenty-fifth.... | East line of Chestnut..... | 6-inch | Eddy | In place of 4-inch Ludlow. |
| "..... | West line of Wallace..... | 4-inch | " | |
| Twenty-sixth ... | East line of Wallace..... | 12-inch | " | In place of 6-inch Eddy. |
| "..... | East line of Ash..... | 12-inch | " | In place of 6-inch Eddy. |
| "..... | East line of Reed..... | 12-inch | " | |
| "..... | East line of Wayne..... | 12-inch | " | |
| "..... | East line of East Ave..... | 6-inch | " | |
| "..... | West line of Wallace..... | 6-inch | " | 6-inch Eddy taken out. |
| Twenty-eighth.. | East line of Ash..... | 6-inch | " | |
| "..... | West line of Parade..... | 6-inch | " | |
| Twenty-ninth.. | East line of Plum..... | $\frac{3}{4}$ -inch | Hays | |
| East Avenue.. } | 487 ² feet South of Twelfth..... | 6-inch | Eddy | For Erie City Iron Works. |
| Wayne..... } | 3 feet West of West line of East Ave. | 6-inch | " | |
| "..... | North line of Twenty-fifth..... | 6-inch | " | |
| "..... | South line of Nineteenth..... | 6-inch | " | |
| Reed..... | North line of Twenty-sixth..... | 6-inch | " | |
| Ash..... | North line of Twenty-sixth..... | 6-inch | " | |
| "..... | South line of Nineteenth..... | 6-inch | " | |
| "..... | North line of Twenty-sixth..... | 4-inch | " | |
| "..... | South line of Twenty-sixth..... | 4-inch | " | |
| Wallace..... | North line of Fifteenth..... | 6-inch | " | |
| "..... | 74 feet South of Eighteenth..... | $\frac{1}{4}$ -inch | Hays | |
| "..... | South line of Twenty-fourth..... | 6-inch | Eddy | |
| Parade..... | North line of Twenty-sixth..... | 4-inch | " | |
| Loesel Avenue.. | North line of Twenty-eighth..... | 6-inch | " | |
| German..... | South line of Eighteenth..... | 4-inch | " | |
| "..... | North line of Third..... | 4-inch | " | |
| Peach..... | South line of Third..... | 4-inch | " | |
| Sassafras..... | 21 feet North of South line of 19th.... | 6-inch | " | For High Service System. |
| | 20 ⁶ feet North of South line of 19th.... | 6-inch | " | For High Service System. |

STOP VALVES PLACED IN 1909 Continued

| Locality | Water Level | Size | State | Remarks |
|-----------|--|--------|-------|-----------------------|
| Martin | 20 feet North of South line of 10th | 6 inch | Faddy | |
| Hickory | South line of Sixteenth | 4 inch | " | Foot High (taken out) |
| Chestnut | South line of Twenty fifth | 6 inch | " | |
| " | 25 feet South of North line of 25th | 6 inch | " | |
| " | North line of Twenty fifth | 6 inch | " | |
| " | North line of Twenty third | 4 inch | " | |
| " | 15 feet North of Twenty fourth | | | |
| " | 7 1/2 feet East of West line of Chestnut | | | |
| Walnut | 160 feet South of Second | 4 inch | Faddy | Foot High (taken out) |
| | West line of Walnut | | | |
| Cherry | 160 feet South of Second | 4 inch | " | Foot High (taken out) |
| Poplar | East line of Cherry | 6 inch | " | |
| | South line of Tenth | 6 inch | " | |
| Liberty | South line of Eighth | 6 inch | " | |
| " | 630 feet South of Twenty sixth | 6 inch | " | |
| " | North line of Twenty sixth | 6 inch | " | |
| " | North line of Tenth | 6 inch | " | |
| Plum | South line of Twenty eighth | 6 inch | " | |
| " | 25 feet south of North line of 20th | 4 inch | Hays | |
| " | 1 foot North of North line of 20th | | | |
| Raspberry | North line of Twenty fourth | 6 inch | Faddy | Foot High (taken out) |
| Cranberry | South line of Fourth | 6 inch | " | |
| " | South line of Sixteenth | 6 inch | " | |
| " | North line of Eighteenth | 6 inch | " | |

**SUMMARY OF
STOP VALVES PLACED AND REMOVED IN 1900.**

| STYLE— | Placed. | Size. | NUMBER. |
|--------------------|----------------|--------------|----------------|
| Hays | | ¾-inch. | 1 |
| Hays | | 1 -inch. | 1 |
| Hays | | 1¼-inch. | 1 |
| Hays | | 2 -inch. | 1 |
| Eddy | | 4 -inch. | 21 |
| Eddy | | 6 -inch. | 72 |
| Eddy | | 12 -inch. | 5 |
| Eddy | | 20 -inch. | 1 |
| Eddy | | 30 -inch. | 1 |
| Pratt & Cady | | 12 -inch. | 1 |
| Total | | | 105 |

| STYLE— | Removed. | | |
|--------------------|-----------------|----------|----|
| Hays | | 2 -inch. | 1 |
| Eddy | | 4 -inch. | 3 |
| Eddy | | 6 -inch. | 3 |
| Ludlow | | 4 -inch. | 3 |
| Total | | | 10 |
| Net increase | | | 95 |

Main Pipe Laid in 1900.

| STREET. | LOCATION. | SIZES. | | | | | | | | REMARKS. |
|----------------|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|--|
| | | ¾ in. | 1 in. | 1¼ in. | 2 in. | 4 in. | 6 in. | 12 in. | 20 in. | |
| Front..... | 495 ft. East of German..... | Feet In. | Feet In. | Feet In. | Feet In. | Feet In. | Feet In. | Feet In. | Feet In. | Hydrant Branch. For line of main in alley. Hydrant Branch. In place of 671.6 ft. 4-in. taken out. Hyd't Branch place of 4½ ft. 4-in. Hyd't Branch taken out. Hyd't Branch place of 27 ft. 4-in. Hyd't Branch taken out. In place of 720 ft. 4-in. taken out. Hyd't Branch place of 9 ft. 4-in. Hyd't Branch taken out. Hydrant Branch. 33.10 ft. of 2 in. taken out at intersection of 4th and Raspberry. 6.4 ft. 4-in. Hyd't Branch taken out 393.6 ft. east of Reed. Hydrant Branch. *Hydrant Branch. In place of 222.6 ft. 1-in. taken out. |
| Second..... | 197.2 ft. West of Holland..... | ..... | ..... | ..... | ..... | 10 | ..... | ..... | ..... |  |
| Second..... | 129.6 ft. East of Wallace..... | ..... | ..... | ..... | ..... | 10 | ..... | ..... | ..... |  |
| Third..... | From Holland Eastward..... | ..... | ..... | ..... | ..... | 7 9 | ..... | ..... | 671 6 | |
| Third..... | 5 ft. East of Holland..... | | | | | | 7 4 | | | Hyd't Branch place of 4½ ft. 4-in. Hyd't Branch taken out. Hyd't Branch place of 27 ft. 4-in. Hyd't Branch taken out. In place of 720 ft. 4-in. taken out. Hyd't Branch place of 9 ft. 4-in. Hyd't Branch taken out. Hydrant Branch. 33.10 ft. of 2 in. taken out at intersection of 4th and Raspberry. 6.4 ft. 4-in. Hyd't Branch taken out 393.6 ft. east of Reed. Hydrant Branch. *Hydrant Branch. In place of 222.6 ft. 1-in. taken out. |
| Fourth..... | 5 ft. East of Cherry..... | ..... | ..... | ..... | ..... | ..... | 7 2 | ..... | ..... |  |
| Fourth..... | From Walnut to Cherry..... | ..... | ..... | ..... | ..... | ..... | 720 | ..... | ..... |  |
| Fourth..... | 5.6 ft. West of Walnut..... | ..... | ..... | ..... | ..... | ..... | 7 | ..... | ..... |  |
| Fourth..... | Between Parade and Wallace..... | | | | | | 443 | | | Hyd't Branch place of 9 ft. 4-in. Hyd't Branch taken out. Hydrant Branch. 33.10 ft. of 2 in. taken out at intersection of 4th and Raspberry. 6.4 ft. 4-in. Hyd't Branch taken out 393.6 ft. east of Reed. Hydrant Branch. *Hydrant Branch. In place of 222.6 ft. 1-in. taken out. |
| Fourth..... | From Wallace Eastward..... | ..... | ..... | ..... | ..... | ..... | 239 | ..... | ..... |  |
| Fourth..... | 5 ft. East of Wallace..... | ..... | ..... | ..... | ..... | ..... | 8 2 | ..... | ..... |  |
| Fourth..... | Intersection of Cranberry..... | ..... | ..... | ..... | ..... | ..... | 12 4 | ..... | ..... |  |
| Fifth..... | Between Reed and Wayne..... | | | | | | 262 6 | | | Hyd't Branch place of 9 ft. 4-in. Hyd't Branch taken out. Hydrant Branch. 33.10 ft. of 2 in. taken out at intersection of 4th and Raspberry. 6.4 ft. 4-in. Hyd't Branch taken out 393.6 ft. east of Reed. Hydrant Branch. *Hydrant Branch. In place of 222.6 ft. 1-in. taken out. |
| Lake Road..... | From Hess Avenue Westward..... | ..... | ..... | ..... | ..... | ..... | 48 10 | ..... | ..... |  |
| Lake Road..... | 5 ft. East of Hess Avenue..... | ..... | ..... | ..... | ..... | ..... | 13 7 | ..... | ..... |  |
| Seventh..... | Between Reed and Wayne..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Eighth..... | Between Hess and Payne Ave..... | | 234 | | | *9 6 | 38 6 | | | Hydrant Branch. *Hydrant Branch. In place of 222.6 ft. 1-in. taken out. |
| Eighth..... | Between Wayne and Perry..... | ..... | ..... | ..... | ..... | ..... | 245 | ..... | ..... |  |

| | | | | | | | |
|--------------------|-------------------------------------|-------|-------|-------|-------|-------|--|
| Eighth..... | 6.3 ft. East of Wayne..... | ..... | ..... | ..... | ..... | 8 9 | { Hydrant Branch. 8.3 ft. 4 in. Hyd't Branch taken out 240.6 ft. East of Wayne. |
| Columbus..... | 249 ft. East of Penna. Ave..... | ..... | ..... | ..... | ..... | 10 | { Hydrant Branch. |
| Ninth..... | Between Liberty and Plum..... | ..... | ..... | ..... | ..... | 248 | { |
| Tenth..... | Bet Cascade and Raspberry..... | ..... | ..... | ..... | *9 6 | 172 | { *Hydrant Branch. |
| Twelfth..... | 11.8 ft. West of Chestnut..... | ..... | ..... | ..... | ..... | 5 2 | { Hydrant Branch. |
| Twelfth..... | 354 ft. West of Cranberry..... | ..... | ..... | ..... | ..... | 11 9 | { Hydrant Branch. |
| Twelfth..... | 353 6 W. of Cranberry Westw'd..... | ..... | ..... | ..... | ..... | 138 | { |
| Thirteenth..... | 321 ft. West of Holland..... | ..... | ..... | ..... | ..... | 8 6 | { Hydrant Branch. |
| Fourteenth..... | 5 ft. West of Ash..... | ..... | ..... | ..... | ..... | 8 10 | { Hydrant Branch. |
| Fourteenth..... | From Ash Eastward..... | ..... | ..... | ..... | ..... | 51 | { In place of 51 ft. 4 in. taken out. |
| Sixteenth..... | Bet. Raspberry and Cranberry..... | ..... | ..... | ..... | ..... | 202 | { |
| Sixteenth..... | Between Myrtle and Chestnut..... | ..... | ..... | ..... | ..... | 353 4 | { |
| Eighteenth..... | Between Wayne and Perry..... | ..... | ..... | ..... | ..... | 558 | { In place of 558 ft. of 4 in. taken out. |
| Eighteenth..... | 64 ft. West of Buffalo Road..... | ..... | ..... | ..... | ..... | 20 | { Hyd't Branch. In place of 4.8 ft. 4 in. Hyd't Branch taken out. |
| Eighteenth..... | N. W. Cor. Wayne..... | ..... | ..... | ..... | ..... | ..... | { 9 ft. 4 in. Hyd't Branch taken out. |
| Eighteenth..... | 5 ft. East of Cranberry..... | ..... | ..... | ..... | ..... | 7 2 | { Hyd't Branch 7 ft. 7 in. 4 ft. West of Cran- berry taken out. |
| Buffalo Road | From Inters. of Perry southw'd..... | ..... | ..... | ..... | ..... | 67 | { In place of 67 ft. 4 in. abandoned. |
| Nineteenth..... | Between Liberty and Cascade..... | ..... | ..... | ..... | ..... | 858 | { |
| Nineteenth..... | From Parade Eastward..... | ..... | ..... | ..... | ..... | 429 6 | { |
| Nineteenth..... | 399.6 ft. East of Parade..... | ..... | ..... | ..... | ..... | 9 | { Hydrant Branch. |
| Nineteenth..... | 5 ft. East of Plum..... | ..... | ..... | ..... | ..... | 7 | { Hydrant Branch. 9 ft. 6 in. Hyd't Branch taken out, 265 ft East of Cascade. |
| Nineteenth..... | From Peach to Sassafras..... | ..... | ..... | ..... | ..... | 726 | { For high service system. For high service system. |
| Nineteenth..... | From Myrtle to Chestnut..... | ..... | ..... | ..... | ..... | 687 6 | { |
| Brown Avenue..... | Between Plum and Cascade..... | ..... | ..... | ..... | ..... | 645 | { |

Main Pipe Laid in 1900.—Continued.

| STREET. | LOCATION. | SIZES. | | | | | | | | REMARKS. |
|-------------------|---|-------------------|-----------|--------------------|-----------|-----------|-----------|-----------|-----------|--|
| | | $\frac{3}{4}$ in. | 1 in. | $1\frac{1}{4}$ in. | 2 in. | 4 in. | 6 in. | 12 in. | 20 in. | |
| Brown Avenue.. | Between Cherry and Poplar..... | Feet. In. | Feet. In. | Feet. In. | Feet. In. | Feet. In. | Feet. In. | Feet. In. | Feet. In. | Hyd't Branch. 15 ft. 4 in. Hydrant Branch taken out 193.6 ft. West of Cascade. |
| Brown Avenue.. | Bet. Cascade and Raspberry..... | ..... | ..... | ..... | ..... | ..... | 310 | ..... | ..... |  |
| Brown Avenue.. | 14 ft. East of Cascade..... | ..... | ..... | ..... | ..... | ..... | 14 4 | ..... | ..... | Hyd't Branch. In place of 8.7 ft. 4 in. Hyd't Branch taken out. |
| Twenty-first..... | 8 ft. East of Holland..... | ..... | ..... | ..... | ..... | ..... | 8 6 | ..... | ..... |  |
| Twenty-first..... | From Plum Eastward..... | ..... | ..... | ..... | ..... | ..... | 190 | ..... | ..... | Hyd't Branch. In place of 8.5 ft. 4 in. Hyd't Branch taken out 9 ft. East of Chestnut. |
| Twenty-first..... | 27.6 ft. East of Chestnut..... | ..... | ..... | ..... | ..... | ..... | 4 6 | ..... | ..... |  |
| Twenty-second.. | Between Ash and Reed..... | ..... | ..... | ..... | ..... | ..... | 165 3 | ..... | ..... | Hydrant Branch. |
| Twenty-second.. | Between Brandes and Elm..... | ..... | ..... | ..... | ..... | ..... | 37 6 | ..... | ..... |  |
| Twenty-second.. | 526.6 ft. East of Warfel Avenue..... | ..... | ..... | ..... | ..... | 8 | ..... | ..... | ..... | Hydrant Branch. |
| Twenty-third.... | Between Liberty and Plum..... | ..... | ..... | ..... | ..... | ..... | 207 6 | ..... | ..... |  |
| Twenty-fourth.. | 80 ft. East of Penna. Ave..... | ..... | ..... | ..... | ..... | 9 6 | ..... | ..... | ..... | *Hydrant Branch. |
| Twenty-fourth.. | From Penna. Ave. Westward..... | ..... | ..... | ..... | ..... | *10 | 122 6 | ..... | ..... |  |
| Twenty-fourth.. | From line of Main on Chestnut Eastward..... | ..... | ..... | ..... | ..... | ..... | 17 9 | ..... | ..... | In place of 17.9 ft. 4 in. taken out. |
| Twenty-fourth.. | From Wallace Eastward..... | ..... | ..... | ..... | ..... | ..... | 64 | ..... | ..... | 10 ft. 4 in. Hyd't Branch taken out. 43 ft. East of Wallace. |
| Twenty-fourth.. | Between Liberty and Plum..... | ..... | ..... | ..... | ..... | ..... | 203 6 | ..... | ..... | 9.6 ft. 4 in. Hyd't Branch taken out. 147.6 ft. West of Liberty |

| | | | | | | |
|---------------------|---|-------|-------|-------|-------|---|
| Twenty-fifth..... | Between Myrtle and Chestnut..... | 239 | ..... | 215 | 6 | In place of 15.3 ft. 4 in. taken out. |
| Twenty-fifth..... | Between Myrtle and Chestnut..... | ..... | ..... | 11 | ..... | Hydrant Branch. |
| Twenty-sixth..... | 5 ft. East of Wallace..... | ..... | ..... | ..... | 2387 | In place of 12.54.6 ft. 6 in. taken out. |
| Twenty-sixth .. | From 441 ft. East of Parade to 7 ft East of Wayne Street..... | ..... | ..... | 11 | ..... | Hydrant Branch. |
| Twenty-sixth..... | 5 ft. East of Ash..... | ..... | ..... | 11 | ..... | Hyd't Branch. In place of 8.2 ft. 4 in. Hyd't Branch taken out. |
| Twenty-sixth..... | 5 ft. East of Reed..... | ..... | ..... | 234 | ..... | Hydrant Branch. |
| Twenty-sixth..... | 7 ft. East of Wayne ..... | ..... | ..... | 96 | ..... | ..... |
| Twenty-sixth..... | From East Avenue Eastward..... | ..... | ..... | 84 | ..... | { 9.6 ft. 4 in. Hyd't Branch taken out, 215.6 ft. East of Penna. Ave. |
| Twenty-seventh..... | Between Parade and Wallace..... | ..... | ..... | ..... | ..... | Hydrant Branch. |
| Twenty-seventh..... | Bet. Penna. Ave. and Brandes..... | ..... | ..... | 9 | 6 | ..... |
| Twenty-seventh..... | 299 ft. East of Penn. Ave ..... | ..... | ..... | 595 | ..... | Hydrant Branch. |
| Twenty-eighth..... | From Ash Eastward..... | ..... | ..... | 5 | ..... | *Hydrant Branch. |
| Twenty-eighth..... | 574 ft. East of Ash..... | ..... | ..... | 157 | ..... | ..... |
| Twenty-eighth..... | From Parade Westwardly..... | ..... | ..... | 10 | ..... | Hydrant Branch. |
| Twenty-ninth..... | From Plum Eastward..... | ..... | ..... | 51 | 6 | ..... |
| Hess Avenue..... | 5 ft. North of Seventh..... | ..... | ..... | 4 | 8 | Hydrant Branch. |
| East Avenue..... | North of Queen Street..... | ..... | ..... | 238 | ..... | Hydrant Branch. Iron Works. |
| East Avenue..... | 8.10 ft. North of Centre..... | ..... | ..... | 7 | ..... | Hydrant Branch. |
| East Avenue..... | 487 ft. S. of 12th Westwardly..... | ..... | ..... | 621 | ..... | ..... |
| East Avenue..... | 487 ft. South of 12th..... | ..... | ..... | 271 | ..... | ..... |
| Wayne..... | From 24th Southward..... | ..... | ..... | 21 | ..... | Acc't Street Paving. |
| Wayne..... | Between 19th and 21st..... | ..... | ..... | 69 | ..... | ..... |
| Wayne..... | Intersection of 18th..... | ..... | ..... | 119 | ..... | { 3.6 ft. 6 in. Hyd't Branch taken out, 98 ft. North of 8th Street. |
| Wayne..... | From 26th Northward..... | ..... | ..... | 360 | ..... | ..... |
| Wayne..... | From 8th Northward..... | ..... | ..... | ..... | ..... | ..... |
| Reed..... | From 25th to 26th..... | ..... | ..... | ..... | ..... | ..... |

[illegible]

Summary of Main Pipe Laid and Removed in 1900.

| PIPE LAID— | | Feet. | Inches. | | |
|---|--------|-------|---------|-------------------|-----------------|
| ¾-inch..... | 154 | 6 | | | |
| 1-inch..... | 234 | | | | |
| 1½-inch..... | 138 | 6 | | | |
| 2-inch..... | 239 | | | | |
| 4-inch..... | 1,214 | | | | |
| 6-inch..... | 17,763 | 7 | | | |
| 12-inch..... | 2,287 | | | | |
| 20-inch..... | 671 | 6 | | | |
| | | | | Total, | 22,702 1 |
| PIPE REMOVED— | | Feet. | Inches. | | |
| 1-inch..... | 222 | 6 | | | |
| 2-inch..... | 386 | 10 | | | |
| 3-inch..... | 92 | 10 | | | |
| 4-inch..... | 2,166 | 1 | | | |
| 6-inch..... | 1,272 | 2 | | | |
| | | | | Total, | 4,140 5 |
| | | | | Total, | 18,561 8 |
| Private pipe laid for Erie City Iron Works, 6 inch..... | | | | 238 | |
| | | | | Net Total..... | 18,799 8 |
| | | | | Or | 3 miles 2,959 8 |
| Previously reported..... | | | | 103 miles 3,424 9 | |
| Grand total..... | | | | 107 miles 1,104 5 | |

CROSSES PLACED IN 1900.

| SIZE. | NUMBER. |
|-------------------|---------|
| 6 x 4-inch..... | 2 |
| 6 x 6-inch..... | 26 |
| 12 x 6-inch | 4— 32 |

REMOVED IN 1900.

| SIZE. | NUMBER. |
|-------------------|---------|
| 4 x 4-inch..... | 5 |
| 6 x 4-inch..... | 1 |
| 6 x 6-inch..... | 2— 8 |
| Net increase..... | — 24 |

TEES PLACED IN 1900.

| SIZE. | NUMBER. |
|------------------|---------|
| 4 x 4-inch..... | 2 |
| 6 x 4-inch..... | 4 |
| 6 x 6-inch..... | 30 |
| 12 x 6-inch..... | 5 |
| 20 x 6-inch..... | 1— 42 |

REMOVED IN 1900.

| SIZE. | NUMBER. |
|-------------------|---------|
| 4 x 4-inch..... | 6 |
| 6 x 4-inch..... | 9 |
| 6 x 6-inch..... | 2 |
| 12 x 4-inch | 1— 18 |
| Net increase..... | — 24 |

Connections Made in 1900.

| WARD. | ¾-Inch. | | 1-Inch. | | 1½-Inch. | | 2-Inch. | | 3-Inch. | | 4-Inch. | | 6-Inch. | | Total-Connections. | |
|--------------|---------|----------|---------|----------|----------|----------|---------|----------|---------|----------|---------|----------|---------|----------|--------------------|----------|
| | No. | Feet In. | No. | Feet In. | No. | Feet In. | No. | Feet In. | No. | Feet In. | No. | Feet In. | No. | Feet In. | | Feet In. |
| First..... | 87 | 1492 8 | | | 2 | 54 | 1 | 11 | | | 1 | 1 | | | 91 | 1,558 8 |
| Second..... | 42 | 637 10 | | | | | | | | | 3 | 33 4 | 2 | 75 8 | 47 | 746 10 |
| Third..... | 32 | 677 10 | 2 | 17 | 1 | 9 | 2 | 65 6 | | | 1 | 11 | | | 38 | 780 4 |
| Fourth..... | 40 | 577 5 | 2 | 40 2 | 5 | 112 2 | | | | | | | | | 47 | 729 9 |
| Fifth..... | 98 | 1816 1 | | | | | 1 | 6 6 | | | 1 | 27 | | | 100 | 1,849 7 |
| Sixth..... | 63 | 1159 6 | | | | | 1 | 25 6 | | | 1 | 36 6 | | | 65 | 1,221 6 |
| Seventh..... | 7 | 133 | | | | | 1 | 13 | | | | | 2 | 116 | 10 | 262 |
| Total..... | 369 | 6494 4 | 4 | 57 2 | 8 | 175 2 | 6 | 121 6 | | | 7 | 108 10 | 4 | 191 8 | 398 | 7,148 8 |

Connections Taken Out in 1900.

| | ¾-Inch. | | 1-Inch. | | 1½-Inch. | | 2-Inch. | | 3-Inch. | | 4-Inch. | | 6-Inch. | | Total-Connections. | |
|-------------------|---------|----------|---------|----------|----------|----------|---------|----------|---------|----------|---------|----------|---------|----------|--------------------|----------|
| | No. | Feet In. | No. | Feet In. | No. | Feet In. | No. | Feet In. | No. | Feet In. | No. | Feet In. | No. | Feet In. | | Feet In. |
| First..... | 5 | 113 10 | | | 1 | 25 6 | | | | | | | | | 6 | 139 4 |
| Second..... | 1 | 8 5 | 1 | 28 9 | | | 1 | 4 | | | | | 1 | 3 6 | 4 | 44 6 |
| Third..... | 3 | 138 7 | | | | | | | | | | | | | 3 | 138 7 |
| Fourth..... | 2 | 20 1 | | | | | 1 | 7 9 | | | | | | | 3 | 27 10 |
| Fifth..... | 1 | 25 6 | | | | | | | | | | | | | 1 | 25 6 |
| Sixth..... | 1 | 59 4 | | | | | | | 1 | 92 10 | | | | | 2 | 152 2 |
| Seventh..... | | | 1 | 9 | | | | | | | | | | | 1 | 9 |
| Total..... | 13 | 365 7 | 2 | 37 9 | 1 | 25 6 | 2 | 11 9 | 1 | 92 10 | | | 1 | 3 6 | 20 | 536 11 |
| Net increase..... | 356 | 6128 9 | 2 | 19 5 | 7 | 149 8 | 4 | 109 9 | | | 7 | 108 10 | 3 | 188 2 | 378 | 6,611 9 |

N. B.—One 3-inch connection, 921° feet pipe, is deducted from net increase of connections and pipe.

Connections Renewed and Altered in 1900.

| | Gain in Service Pipe | | Less in Service Pipe | | Net Increase or Decrease | |
|-------------|----------------------|-------|----------------------|-------|--------------------------|-------|
| | Feet. | Inch. | Feet. | Inch. | Feet. | Inch. |
| First..... | 108 | 16 1 | | | | |
| Second..... | 44 | | | | | |
| Third..... | 47 | | | | | |
| Fourth..... | 21 | | | | | |
| Fifth..... | 30 | | | | | |
| Sixth..... | 22 | | | | | |
| Total..... | 272 | 16 1 | | | 637 | 8 |

| | | |
|--|------|----|
| Net increase in service pipe in 1900..... | 6611 | 9 |
| Net loss of service pipe, altering 272 cons, 621 7 | | |
| Net increase of service pipe in 1900..... | 5990 | 2 |
| Service pipe in use Dec. 31, 1899, .....42 Miles | 3135 | 11 |
| Service pipe in use Dec. 31, 1900.....43 Miles | 3846 | 1 |

Statement of Connections Made to December 31, 1900.

| WARD. | IN PAVED STREETS NOT IN USE. | | | | | | IN USE. | | | | | | | | | | TOTAL. | | | | | | | | |
|--------------|------------------------------------|---|----|---|---|--------|-----------------|-----|----|-----|-----|---|-----------------|-----|--------|-------|--------|----|-----|-----|---|---|-----|--------|-------|
| | SIZE IN INCHES. | | | | | | SIZE IN INCHES. | | | | | | SIZE IN INCHES. | | | | | | | | | | | | |
| | ¾ | 1 | 1½ | 2 | 4 | Total. | ¾ | 1 | 1½ | 2 | 2½ | 3 | 4 | 6 | Total. | ¾ | 1 | 1½ | 2 | 2½ | 3 | 4 | 6 | Total. | |
| First..... | 140 | — | — | 1 | — | 141 | 1664 | 20 | — | 11 | 11 | — | — | — | 1523 | 1664 | 20 | — | 11 | 12 | — | — | 17 | — | 1664 |
| Second..... | 235 | 1 | 1 | 1 | — | 238 | 2165 | 15 | — | 27 | 16 | — | — | — | 2278 | 2400 | 16 | — | 28 | 16 | — | — | 44 | 12 | 2516 |
| Third..... | 377 | 2 | — | — | — | 379 | 1937 | 35 | — | 25 | 27 | 1 | — | — | 2055 | 2314 | 37 | — | 25 | 27 | 1 | — | 26 | 4 | 2434 |
| Fourth..... | 199 | 1 | — | — | — | 200 | 1654 | 31 | 3 | 23 | 25 | — | — | 14 | 1750 | 1853 | 32 | 3 | 23 | 25 | — | — | 14 | — | 1950 |
| Fifth..... | 74 | — | — | — | — | 74 | 1273 | 11 | 1 | 11 | 12 | — | — | 5 | 1313 | 1347 | 11 | 1 | 11 | 12 | — | — | 5 | — | 1387 |
| Sixth..... | 68 | 2 | — | 2 | — | 72 | 1383 | 17 | — | 10 | 10 | — | — | 7 | 1427 | 1451 | 19 | — | 10 | 10 | — | — | 9 | — | 1499 |
| Seventh..... | — | — | — | — | — | — | 65 | 4 | 1 | 8 | 5 | — | 1 | 3 | 91 | 65 | 4 | 1 | 8 | 5 | — | 1 | 3 | 4 | 91 |
| Total..... | 1093 | 6 | 1 | 1 | 3 | 1104 | 9941 | 133 | 5 | 115 | 106 | 1 | 1 | 115 | 10437 | 11034 | 139 | 5 | 116 | 107 | 1 | 1 | 118 | 20 | 11541 |

Total number reported in 1899..... 11,163

Total number made in 1900..... 398

Removed and abandoned in 1900..... 20

Net increase in 1900..... 378

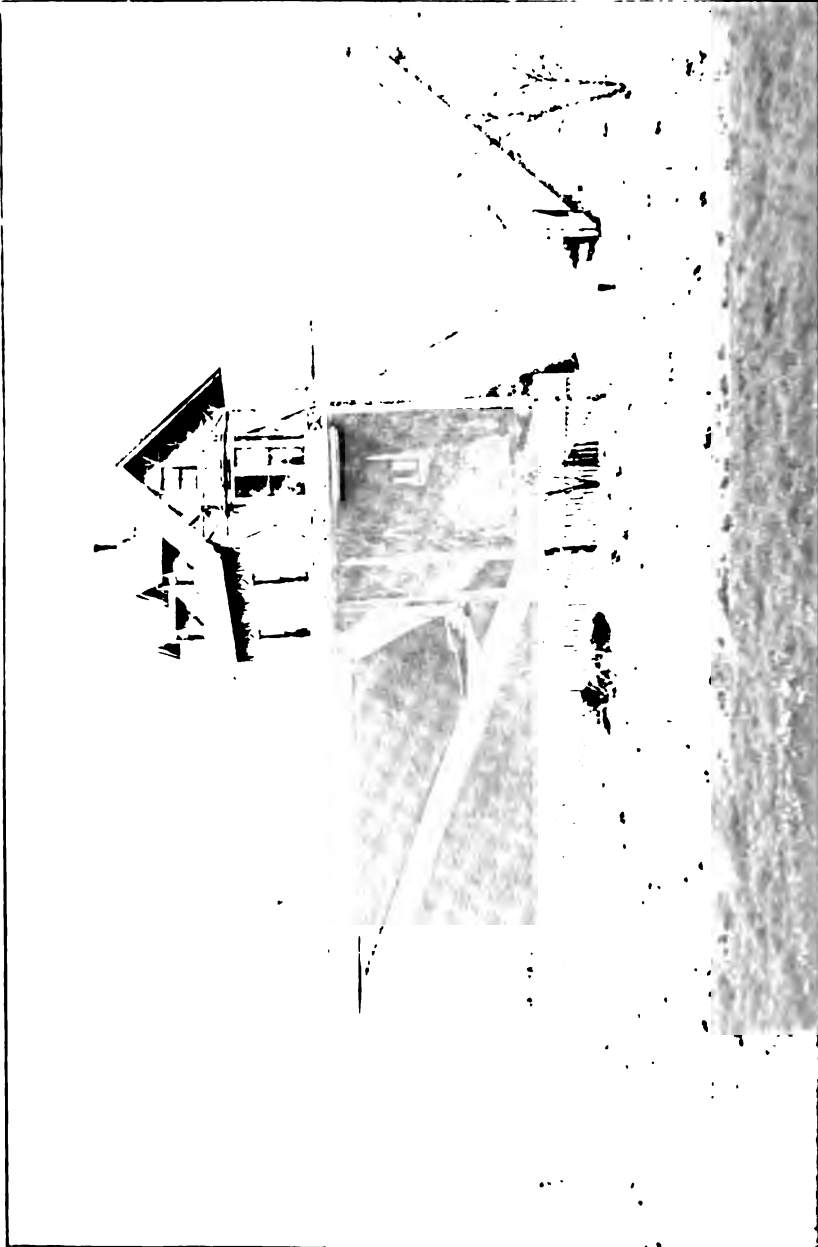
Total number December 31, 1900..... 11,541

STATEMENT OF METERS DECEMBER 31, 1900.

| KIND. | IN USE. | | | | | | | | | | | | NOT IN USE. | | | | | | | | | | | | TOTAL. | | | | | | | | | | | | | | |
|------------------|-----------------|-----|----|-------|----|----|----|-------|-----|-----|----|-------|-------------|-----------------|---|---|----|-----|-----|----|-------|----|----|----|--------|--------|-----------------|--|--|--|--|--|--|--|--|--|--|--|--------|
| | SIZE IN INCHES. | | | | | | | | | | | | Total. | SIZE IN INCHES. | | | | | | | | | | | | Total. | SIZE IN INCHES. | | | | | | | | | | | | Total. |
| | 5/8 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 5/8 | 3/4 | 1 | 1 1/2 | | 2 | 3 | 4 | 6 | 5/8 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | | | | | | | | | | | | | | |
| Crown..... | 1 | 5 | 2 | 1 | 7 | 1 | 2 | 19 | | | | | | | | | 1 | 1 | 5 | 2 | 1 | 8 | 1 | 2 | 20 | | | | | | | | | | | | | | |
| Columbia..... | 10 | 12 | | | | | | 22 | 7 | 5 | | | | | | | 12 | 17 | 17 | | | | | | 34 | | | | | | | | | | | | | | |
| Empire..... | | | 2 | | 2 | | | 4 | | | | | | | | | 1 | | | 2 | | 3 | | | 5 | | | | | | | | | | | | | | |
| Gem..... | | | | | 3 | | | 3 | | | | | | | | | | | | | | 3 | | | 3 | | | | | | | | | | | | | | |
| Lambert..... | | 1 | | | | | | 1 | | | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | | | | | | |
| National..... | | | | | | | | 1 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | |
| Pitts. Disc..... | | 1 | 1 | | | | | 2 | 1 | | | | | | | | 1 | 1 | 1 | | | | | | 3 | | | | | | | | | | | | | | |
| Thomson..... | | 2 | 6 | 3 | 4 | 4 | 1 | 24 | | | | | | | | | 3 | 3 | 6 | 4 | 4 | 5 | 1 | 4 | 27 | | | | | | | | | | | | | | |
| Union..... | | 3 | 55 | 11 | 16 | 24 | 8 | 131 | 3 | 9 | 9 | 4 | | | | | 25 | 6 | 64 | 20 | 16 | 28 | 8 | 13 | 156 | | | | | | | | | | | | | | |
| Worthington..... | | | 3 | 7 | 5 | 1 | 1 | 17 | | 1 | 2 | | | | | | 3 | | 4 | 9 | 5 | 1 | 1 | | 20 | | | | | | | | | | | | | | |
| Total..... | 16 | 83 | 26 | 27 | 41 | 11 | 19 | 1 224 | 12 | 15 | 12 | 7 | | | | | 46 | 28 | 98 | 38 | 27 | 48 | 11 | 19 | 1 270 | | | | | | | | | | | | | | |

| KIND. | GOOD. | | | | | | | | | | POOR. | | | | | | | | | | TOTAL. | | | | | | | | | | | | |
|-------------------|-----------------|-----|----|-------|----|----|----|-------|-----|-----|--------|-----------------|-------|---|---|---|---|-----|-----|----|--------|--------|-----------------|----|-------|---|--|--|--|--|--|--|--------|
| | SIZE IN INCHES. | | | | | | | | | | Total. | SIZE IN INCHES. | | | | | | | | | | Total. | SIZE IN INCHES. | | | | | | | | | | Total. |
| | 5/8 | 3/4 | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 5/8 | 3/4 | | 1 | 1 1/2 | 2 | 3 | 4 | 6 | 5/8 | 3/4 | 1 | 1 1/2 | | 2 | 3 | 4 | 6 | | | | | | | |
| Crown | 1 | 5 | 2 | 1 | 8 | 1 | 2 | 20 | | | | | | | | | | | | | | | | | 20 | | | | | | | | |
| Columbia | 17 | 17 | | | | | | 34 | | | | | | | | | | | | | | | | | 34 | | | | | | | | |
| Empire | | | 2 | | 3 | | | 5 | | | | | | | | | | | | | | | | | 5 | | | | | | | | |
| Gem | | | | | 3 | | | 3 | | | | | | | | | | | | | | | | | 3 | | | | | | | | |
| Lambert | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| National | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| Pitts. Disc | | 1 | 1 | | | | | 3 | | | | | | | | | | | | | | | | | 3 | | | | | | | | |
| Thomson | | 3 | 6 | 4 | 4 | 5 | 1 | 27 | | | | | | | | | | | | | | | | | 27 | | | | | | | | |
| Union | | 6 | 64 | 20 | 16 | 28 | 8 | 13 | 1 | 156 | | | | | | | | | | | | | | | 156 | | | | | | | | |
| Worthington | | | 4 | 8 | 5 | 1 | 1 | 19 | | | | | | | | | | | | | | | | | 19 | | | | | | | | |
| Total | 28 | 98 | 37 | 27 | 48 | 11 | 19 | 1 269 | 1 | | | | | | | | 1 | 28 | 98 | 38 | 27 | 48 | 11 | 19 | 1 270 | | | | | | | | |

1 7/8-inch Crown, entered as 2-inch last report, taken out at Bacon Novelty Co.; since then set at Walker Foundry Co.
 One 3/4-inch Columbia exchanged for one 5/8-inch Columbia meter at People's Market Co.



RESERVOIR.

ANALYSES OF WATER BY DR. WM. P. MASON, TROY, N. Y.

| LOCATION. | DATE. | RESULTS IN PARTS PER MILLION. | | | | | | | | | | | | | | | Remarks. |
|---------------------------------------|--------------|-------------------------------|-------|--------|-------------------------------|------------|------------------|------------------------|-----------|--------------------------|--------------------------|---|------------------------------------|--------------------------------------|-------------------|---|---------------------------|
| | | Taste. | Odor. | Color. | Sediment. quickly falling. | Turbidity. | Free Ammonia. | Albuminoid Ammonia. | Chlorine. | Nitrogen in Nitrates. | Nitrogen in Nitrites. | Oxygen required to oxidize organic matter at 20° F. | Hardness. (as parts of Ca to 3) | Alkalinity. (as parts of Ca to 3) | Total Solids. | Bacteria. Per cubic centimetre. |  | Bacillus. Coli Communis. |
| Lake Erie, 2½ miles from shore. | June..... | 5 none | none | .3 | none | 2.7 | .084 | .0462. | .137 | .0005 | 1.35 | 83.6 | 47.5 | 71. | sample spoiled | absent | See letter below. |
| | September... | 24 none | none | none | slight | none | .047 | .115 | 6.5 | .075 | trace | 1.75 | 50. | 145. | none | none | See letter below. |
| | November... | 29 none | none | .1 | none | 10. | .012 | .0226. | .025 | trace | 1.35 | | 47.5 | 137. | 80. | none | |
| New Intake. | June..... | 5 none | none | .3 | none | 2.7 | .155 | .1462. | .137 | .002 | 2.5 | 94.8 | 50. | 115. | sample spoiled | present | |
| | September... | 24 none | none | none | slight | none | .073 | .133 | 9.5 | .0625 | slight | 2.7 | 50. | 105. | present | present | |
| | November.... | 29 none | none | .1 | none | 18. | .081 | .0482. | .087 | .001 | 2.75 | | 47.5 | 171. | 2450. | present | |
| Reservoir. | June..... | 5 none | none | .3 | none | 2.7 | .099 | .1122. | .137 | .002 | 2.95 | 89.76 | 45. | | sample spoiled | absent | Nothing throughout |
| | September... | 24 none | none | none | 800 re- marks | none | .042 | .199 | 9.5 | .05 | none | 2.4 | 45. | 129. | | Some what doubtful. The sample were na- tural fragments of algae, but prob- ably from the reservoir. | |
| | November... | 29 none | none | .1 | none | 5. | .028 | .0608. | .025 | trace | 2.45 | | 47.5 | 146. | 645. | present | No Oscillaria present. |

TRÖV, N. Y., June 14, 1900.

I have just finished the examination of the samples of Water recently sent me, and enclose the result. You will observe that there is a material difference between the Lake Water and those from the Bay. This difference being in favor of the Lake. What I particularly note, however, is that the bacillus coli communis, which is present in both the intake samples, is entirely absent in the reservoir sample. This is interesting, as tending to show that objectionable organisms do not survive the reservoir storage. Should this particular difference be shown to be fairly constant it would be a strong indication of the efficiency of your present establishment, and it would bring in question the wisdom of making any change whatever in your present method of securing water.

From the way in which the jelly flasks arrived I fear you must have had trouble in making the sowings. The blue jelly arrived in an entirely useless condition. I do not set any value upon the total count of bacteria for these samples.

Yours very truly,

WM. P. MASON.

TRÖV, N. Y., October 12, 1900.

Permit me to hand you herewith the analytical results for the Water samples taken September 24th. You will observe that the Lake Water of that date contained no bacillus coli communis. Both the intake waters contained that germ. The reservoir water was somewhat doubtful so far as that item is concerned, the culture jelly having behaved badly. There is no question, however, of the very great improvement obtained by reservoir storage. With reference to the thread-like particles floating in the reservoir water, they all consist of a growth known as Oscellaria. They will not give you any trouble in all probability, as they are not productive of objectionable tastes and smells. They are sometimes observable floating like minute green stars upon a surface of lake waters. Of course, they will collect in patches such as you describe. I have no sample of the sea weed you speak of as occurring in Lake Erie, but I strongly doubt if such weed bears any relation to the Oscellaria of the reservoir. I should be glad to hear anything further you may have to say with reference to its continued growth.

Yours very truly,

WM. P. MASON.

ANALYSES OF WATER BY DR. WM. P. MASON, TROY, N. Y.
*Rensselaer Polytechnic Institute,
 Department of Analytical Chemistry.*

| LOCATION. | DATE. | RESULTS IN PARTS PER MILLION. | | | | | | | | | | | | | | | Remarks. | | |
|--------------------------------|---------------|-------------------------------|--------|----------------------------|-------------------------------|------------------------------------|------------------|------------------------|----------------------------|--------------------------|--------------------------|--|--|--------------------------------------|---------------|-----------------------------------|----------|----------------------------|-------------------|
| | | Taste. | (Odor. | Color. (Platinum Scale) | Sediment. Quickly Falling. | Turbidity. (Per Clay Standard). | Free Ammonia. | Albuminoid Ammonia. | (Chlorine in Chlorides. | Nitrogen in Nitrates. | Nitrogen in Nitrates. | Oxygen required to Oxidize Organic Mat- ter at 212° F. | Hardness. (As parts of Ca Co 3 Soap Test). | Alkalinity. (As parts of Ca Co 3) | Total Solids. | Bacteria. Per Cubic Centimetre | | Bacillus Coli Communis. | |
| Lake Erie. | 1961 | 8 | none | none | .08 | none | 15. | .03 | .127 | 8. | .2 | .001 | 1.2 | ..... | 50. | 152. | 5627. | present | See letter below. |
| | February..... | 8 | none | none | .08 | none | 6. | .08 | .112 | 8.5 | .2 | .004 | 2.1 | ..... | 50. | 135. | 1209. | a few present. | See letter below. |
| New Lake Res- ervoir. | February..... | 8 | none | none | none | none | 1. | .07 | .155 | 8.5 | .2 | .0025 | 2. | ..... | 50. | 143. | 410. | none | See letter below. |

TROY, N. Y., February 16, 1901.

Commissioners of Water Works, Erie, Pa.:

Gentlemen.—Permit me to hand you herewith the analytical results for the samples of Water taken February 8th. The water of the new Intake is decidedly superior to the Lake Water of that date, both in appearance and in composition. It is free from the fine silt that causes marked turbidity in the Lake Water; it contains a smaller number of Bacteria and fewer Gas-forming organisms. I am still of the opinion that it would be wiser for you to draw your raw water from the present source, rather than attempt the establishment of an intake crib in the Lake. I note that the Reservoir sample of February 8th shows great improvement as a result of storage. You will observe the absence of Bacillus Coli Communis, which is a matter of importance. To my mind any future studies you might undertake should be directed towards determining the best possible treatment of your present supply, to the entire exclusion of all consideration of Lake Water. The question to be determined being the extent to which your reservoir storage can be depended upon for improvement of the raw water, and a consideration of the form of such supplementary purification as might be found to be required.

Yours very truly,

WILLIAM P. MASON.

The above analysis was received from Doctor Mason after the Annual Report was placed in the hands of the printer, and is published herewith in order to give the public the latest information on the subject.

DRINKING FOUNTAINS FOR MAN, HORSE AND DOG,
Manufactured by J. L. Mott Iron Works, New York and Chicago.

| STYLE. | DATE OF INSTALLATION. | WHERE LOCATED. |
|------------|-----------------------|--|
| No. 1..... | October 26, 1894..... | South Park Row between State and French streets. |
| No. 2..... | June 13, 1894..... | Turnpike and Southwest corner State street. |
| No. 2..... | June 16, 1894..... | Parade and Southeast corner Tenth street. |
| No. 2..... | July 3, 1895..... | State and Southeast corner Eighteenth street. |
| No. 2..... | July 26, 1895..... | Parade, East Side, between Twelfth and Thirteenth streets. |
| No. 2..... | October 2, 1895..... | State, East Side, between Third and Fourth streets. |
| No. 2..... | June 16, 1896..... | Chestnut and Southeast corner Eighteenth street. |
| No. 2..... | July 31, 1897..... | Peach and Southeast corner Twenty-sixth street. |
| No. 2..... | August 5, 1897..... | Eighth street, Northwest corner Cranberry street. |
| No. 2..... | August 14, 1900..... | Peach and Lakeside Park. |
| No. 3..... | August 22, 1900..... | Water Works Park. |

Style No. 1—Square base; ornamental top, with square sides; three places for man, one for horses.

Style No. 2—Square base; oval sides, with plain top; one place for men, one for horses, two for dogs.

Style No. 3—Flat base; oval sides, with plain top; one place for man.

Comparative Statement of Water Rates in Twenty-Seven Cities in the United States.

| CITY. | Population. | WATER WORKS SYSTEM. | RATES. | | | | | TOTALS. | | |
|----------------------|-------------|------------------------|--------|---------|-----------|---------|---------|---------|--------------|-------------|
| | | | METER. | | ASSESSED. | | | | | |
| | | | Flat. | Lowest. | Highest. | Family. | Bath. | | Water Closet | Sprinkling. |
| Albany, N. Y. | 100,000 | Gravity & Pumping | 8 | ..... | ..... | \$18 00 | ..... | \$ 2 00 | ..... | \$20 00 |
| Allegheny, Penna. | 125,000 | Pumping, | 10 | ..... | ..... | 16 25 | \$ 3 00 | 9 00 | \$ 5 50 | 33 75 |
| Boston, Mass. | 520,000 | Gravity & Pumping | ..... | 10½ | 18½ | 8 00 | 3 00 | 10 00 | 5 00 | 26 00 |
| Cambridge, Mass. | 87,000 | " " | ..... | 10 | 30 | 8 50 | 4 00 | 5 00 | 5 00 | 22 00 |
| Chicago, Ill. | 1,750,000 | Pumping, | ..... | 8 | 10 | 14 50 | ..... | 3 00 | 3 00 | 20 50 |
| Cincinnati, Ohio. | 406,000 | " | ..... | 8½ | 20 | 7 50 | 2 70 | 8 00 | 8 94 | 17 14 |
| Cleveland, Ohio. | 370,000 | " | 5½ | ..... | ..... | 6 50 | 2 00 | 4 00 | 1 00 | 13 50 |
| Dayton, Ohio. | 85,000 | " | ..... | 7 | 8 | 6 00 | 2 00 | 3 50 | 6 64 | 18 14 |
| Des Moines, Iowa. | 68,000 | " | ..... | 10 | 30 | 6 75 | 3 00 | 5 00 | 7 50 | 22 25 |
| ERIE, PENNA., | 55,000 | " | ..... | 4 | 20 | 4 00 | 8 00 | 4 50 | 3 00 | 14 50 |
| Fall River, Mass. | 98,000 | " | ..... | 10 | 28 | 10 00 | 5 00 | 8 00 | 6 00 | 29 00 |
| Grand Rapids, Mich. | 90,000 | " | ..... | 4½ | 20 | 6 00 | 3 00 | 5 00 | 11 29 | 25 29 |
| Harrisburg, Penna. | 60,000 | " | ..... | 2½ | 13½ | 10 50 | 4 00 | 3 00 | 2 00 | 19 50 |
| Indianapolis, Ind. | 169,155 | " | ..... | 6 | 20 | 9 00 | 3 00 | 5 00 | 7 10 | 24 10 |
| Lancaster, Penna. | 40,000 | " | 5 | ..... | ..... | 6 00 | 3 00 | 6 00 | 5 00 | 20 00 |
| Lawrence, Mass. | 54,500 | " | ..... | 8 | 20 | 5 50 | 3 40 | 4 40 | 3 30 | 16 60 |
| Lowell, Mass. | 90,000 | " | ..... | 13½ | 18½ | 6 00 | 3 00 | 6 00 | 3 00 | 18 00 |
| Milwaukee, Wis. | 270,000 | " | 6 | ..... | ..... | 10 00 | 3 00 | 3 50 | 17 42 | 33 92 |
| Philadelphia, Penna. | 1,300,000 | " | 4 | ..... | ..... | 5 00 | 3 00 | 2 00 | 5 00 | 15 00 |
| Pittsburg, Penna. | 300,000 | " | ..... | 8 | 20 | 13 00 | 1 00 | 6 00 | 8 00 | 28 00 |
| Providence, R. I. | 150,000 | " | ..... | 15 | 20 | 6 00 | 5 00 | 8 00 | 5 00 | 24 00 |
| Reading, Penna. | 87,735 | Gravity & Pumping | ..... | 2½ | 50 | 4 50 | 2 50 | 4 00 | 9 00 | 20 00 |
| Rochester, N. Y. | 170,000 | " " | ..... | 10 | 14 | 5 00 | 3 00 | 3 00 | 4 00 | 14 00 |
| Saginaw, Mich. | 52,000 | Pumping. | ..... | 6 | 11 | 9 00 | 3 00 | 4 00 | 3 00 | 19 00 |
| Springfield, Mass. | 55,000 | Gravity, | ..... | 7 | 30 | 8 00 | 4 00 | 6 00 | 5 00 | 23 00 |
| Syracuse, N. Y. | 133,000 | " | ..... | 4½ | 18½ | 5 00 | 4 00 | 6 00 | 6 00 | 21 00 |
| Worcester, Mass. | 102,000 | " | ..... | 15 | 25 | 7 00 | 5 00 | 6 00 | 5 00 | 23 00 |

Building—Two stories high; 10 rooms; assessed valuation \$1,500 00 to \$3,000.00.

Family—Six persons. Three faucets and three sinks allowed with each family.

Fixtures—One bath; two water closets, and faucet for sprinkling.

Lot—Inside lot; 41½ feet front on a 60-foot street; 165 feet or less in depth.

ERIE, PENNA.—Family, \$4.00. Bath tub, \$3.00; each additional, \$1.50. Water closet, \$3.00; each additional, \$1.50.

Sprinkling, 41 feet front or less, \$3.00; each additional foot front, 5 cents. For meter rates see page 61.

- ALBANY, N. Y. Two-story dwellings on a lot from 40 feet to 50 feet wide; bath, and includes one each bath tub and water closet and sprinkling; each additional closet above one, \$2.00.
- ALLEGHENY, PENNA.—Six-room house, \$10.25; each additional room, \$1.50. Each bath tub, hot and cold water, \$5.00. Water closets, not less than \$2.00, nor more than \$10.00; each additional closet, $\frac{1}{2}$ rates. Street washer, \$1.00 to \$10.00.
- BOSTON, MASS.—Family, every dwelling-house shall be charged, when it is valued for the assessment of taxes at \$500.00 or any sum less, and occupied by one family only, \$5.00; more than \$500.00 and not more than \$1,000.00, \$6.00; and for every additional \$1,000.00 or fractional part thereof, \$1.00, until the valuation for the assessment of taxes shall amount to \$25,000.00. Bath tubs, \$3.00 each. Water closets, each, \$5.00. Sprinkling, \$5.00.
- CAMBRIDGE, MASS.—Family, first faucet, \$4.00; each additional faucet, \$2.00. First water closet, \$3.00; each additional, \$2.00. Sprinkling, less than 5,000 feet, \$5.00.
- CHICAGO, ILL.—Two-story dwelling on a lot from 40 to 44 feet wide; \$14.50, which carries with it one each bath tub and water closet; each additional of each, \$3.00. Sprinkling, \$5.00.
- CINCINNATI, OHIO.—Nine to 10-room house, \$7.50. Each bath tub, \$2.70. Each water closet \$4.00. Sprinkling, 1 cent per square yard.
- CLEVELAND, OHIO.—Dwellings, one, two or three rooms, \$3.00; each additional room, 50c. Bath tubs, each, \$2.00. Water closets, each, \$2.00. Sprinkling, lot 66 feet or less in front, 3-inch connection, \$1.00.
- DAYTON, OHIO.—Dwellings, six rooms or less, \$4.00; each additional room 50c. Bath tub, \$2.00; each additional bath tub, \$1.00. Water closet, \$2.50; each additional, \$1.00. Sprinkling, 25 feet front or less, \$5.00; each additional foot front, extending back 30 feet or less, .02 cts.; each additional square yard on premises, \$.002 cts.
- DES MOINES, IOWA.—Family—Dwelling, six rooms or less, \$4.00; 6 to 9 rooms, each, 75c.; over 9, each, 50c. Bath tub, \$3.00 for first one; \$2.00 for each additional. Water closet, for first one, \$3.00, for each additional, \$2.00. Sprinkling, 50 feet front, \$7.50; each additional foot, 10c.
- FALL RIVER, MASS.—Family, first faucet, \$5.00; each additional faucet, \$2.50. Bath tub, first one, \$5.00; each additional one, \$4.00. Water closet, first one, \$5.00; each additional one, \$3.00. Sprinkling, where nozzle not exceeding $\frac{1}{2}$ -inch diameter is used, \$6.00.
- GRAND RAPIDS, MICH.—Family, four persons or less, \$4.00; each additional person, \$1.00. Bath tubs, four persons or less, one or more tubs, \$2.00; each additional person using same, 50c. Water closets, four persons or less, one or more closets, \$4.00; each additional person using same, 50c. Bath tub or water closet, double rates. Sprinkling, for each 1,000 feet water used, \$2.00. (Estimated for 41,216 sq. ft. on each street, south of 41st st. Say buildings equal 30x28=2,400 sq. ft. (Chg. for remainder, 364 sq. ft.)
- HARRISBURG, PENNA.—Family, first openings, 2-story house on street, \$6.50. Sink, \$2.00. Bath tubs, \$4.00. Water closets, \$3.00. Sprinkling, \$2.00.
- INDIANAPOLIS, IND.—Family, 3 rooms, \$4.00; 6 rooms or less, \$5.00; each additional room, \$1.00. Bath tub, first one, \$3.00; each additional tub, \$2.00. Water closet, first one, \$3.00; each additional closet, \$2.00. Sprinkling, 30 feet and under, \$6.00; each additional foot over 30 ft. 10c.
- LANCASTER, PENNA.—Family, two-story house, \$6.00. Bath tub, \$3.00 each. Water closet, \$1.00 each. Sprinkling, \$5.00 per season.
- LAWRENCE, MASS.—Family, five persons or less, \$5.00; each additional person, 50c. Bath tub, five persons or less, \$3.00; each additional person to 12, 40c.; each five persons or less, \$3.00. Water closet, 5 persons or less, \$4.00; each additional person, 40c. Sprinkling, under 25 ft. front, \$2.50; each additional foot up to 70 feet, 50c.
- LOWELL, MASS.—Family, six persons, \$6.00; each additional person, 50c. Bath tub, each person residing in house, 50c., but no charge less than \$3.00. Water closets, each person residing in house, 50c.—nothing less than \$4.00; each additional closet, \$2.00. Sprinkling, \$3.00.
- MILWAUKEE, WIS.—Family, five or six rooms, \$6.00. Each additional room, \$1.00. Bath tub, each, \$3.00. Water closets, first one, \$2.00; each additional one, \$1.50. Sprinkling,—for sprinkling sidewalks and half streets only, for 25 feet front or less, \$4.00; for each additional foot, 15c. Lawns or gardens, from May 1 to Nov. 1 only, and not to exceed three (3) hours each day, for each 1,000 square feet or less, \$2.50. No lawn sprinkler or street washer shall be charged separately without charging for all buildings and fixtures on said premises. (Street washer in this case would be \$6.40; lot would be for 6,500 sq. ft. less buildings 2,400 sq. ft., remainder, 4,100 sq. ft. at \$2.50 per 1,000 sq. ft.—\$11.02.)
- PHILADELPHIA, PENNA.—Family, \$5.00. Bath tubs, each, \$3.00. Water closets, each, \$1.00. Sprinkling, \$5.00.
- PITTSBURGH, PENNA.—Family, one room, \$2. each additional room, \$1.00. Sinks, each, \$1.00. Bath tubs, each, \$1.00. Water closets, self-closing, each, \$3.00. Sprinkling, wash pan, \$3.00; lawn sprinkling, \$3.00.
- PROVIDENCE, R. I.—Family, \$6.00. Bath tub, first tub, \$5.00; each additional, \$3.00. Water closets, first closet, \$5.00; each additional, \$3.00. Sprinkling, season, \$5.00.
- READING, PENNA.—Family, \$4.50. Bath tub, first tub, \$2.50; each additional, \$2.00. Water closets, each, \$2.00. Sprinkling,—permission to sprinkle streets, \$4.00; lawn sprinklers (April to October), each, \$5.00.
- ROCHESTER, N. Y.—Family, assessed valuation \$1,500.00 to \$3,000.00, \$5.00. Bath tub, first tub, \$2.00; each additional tub, \$1.00. Water closets, first closet, \$2.00; each additional closet, \$1.00. Sprinkling, 50 feet frontage or less, \$4.00; each additional foot front up to 100 feet, 8c.; each additional foot front over 100 feet, 5c.; hose attachment over two, each, \$2.00.
- SARASOTA, MICH.—Family, 6 persons, 8 rooms, \$3.00; 7 or 8 persons, 10 rooms, 49. Bath tubs, 4 persons or less, \$2; each additional person, 50c. Water closets, 6 persons or less, \$3; each additional person, 50c.; each additional closet, \$1.00. Sprinkling, each lot 60x120 feet or less, \$3.00.
- SPRINGFIELD, MASS.—Family, \$8.00. Bath tubs, \$4.00; each additional tub, \$2. Water closet \$4; each additional closet, \$2. Sprinkling, \$5.00, where water is used by family; when it is not used by family, \$8.
- SYRACUSE, N. Y.—Family, \$5.00. Bath tub, one or two tubs for family use, \$4.00. Water closets, \$3.00; for each additional closet, \$1.00. Sprinkling, accompanied by inside use, \$6.00; when unaccompanied by inside use for domestic purposes, \$10.00.
- WORCESTER, MASS.—Family, 6 persons or less, \$6.00; not over 10 persons, \$8.00; all sinks more than 2, each, \$1.00. Bath tubs, first tub, \$5; each additional tub, \$2.00. Water closets, first closet, \$4.00; each additional closet, \$2.00. Sprinkling, 5,000 square feet or less, \$5.00.



WEST END OF PUMPING STATION AS IT APPEARED ABOUT TEN YEARS AGO.

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B'D. JUL 29 1973



